



National Kaohsiung University of
Science and Technology



NKUST SUSTAINABILITY REPORT

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About This Report

The National Kaohsiung University of Science and Technology released the 2022 Sustainability Report (hereinafter referred to as the Report) in December 2023. Through the compilation of this report, we respond to the United Nations Sustainable Development Goals (SDGs) and disclose our university's relevant performance in teaching, research, environment, social participation, and governance, providing a reference for all stakeholders.

Compilation Principles

This report refers to the SASB's Education industry sustainability accounting indicators to define the industry context and discloses sustainability indicators based on the United Nations Sustainable Development Goals (SDGs), the Sustainability Tracking, Assessment and Rating System (STARS), and the Global Reporting Initiative (GRI) Guidelines (GRI Standards 2021). Following ESG principles, this report examines the university's sustainability performance from the perspectives of "Environment," "Social," and "Governance."

Reporting Period

According to the comparability principle in GRI Standard 1, organizations should use consistent criteria to select, organize, and report information, enabling them to analyze the impact of changes over time and compare these impacts with those of other organizations. Since calculations in the education industry are often based on annual and academic year periods, the disclosed data and content are primarily based on the statistical period from January 1, 2022, to December 31, 2022. For information related to teachers and students, the disclosure range is the 2021/2022 academic year (from August 1, 2021, to July 31, 2022). To ensure comprehensiveness, certain data encompasses information predating 2022 or includes the latest information available as of 2023.

Confirmation and Verification

NKUST has appointed TUV NORD Taiwan Co., Ltd. to review the disclosed performance indicators in this report, following the AA1000 Assurance Standard (AA1000AS v3) published by the global non-profit organization AccountAbility. The review is based on the principles of inclusivity, materiality, responsiveness, and impact, encompassing the verification of relevant performance information. This process aims to bolster the quality and reliability of the report. The third-party assurance statement is available in the report's appendix.

Boundaries and Scope

The information described in the report covers the National Kaohsiung University of Science and Technology, with some performance indicators covering its affiliated institutions. Furthermore, the financial scope of our university is limited to the performance report of the university's school fund.

Quality Management Process

01. **Committee Formation**
 - To promote the assessment of sustainable performance in various units, a Sustainable Development Committee has been established, comprising six working groups: University Affairs and Governance Group, Scientific Research and Innovation Group, Cross-Disciplinary Empowerment Group, Placemaking and Social Care Group, International Development Group, and Campus Progression Group. Additionally, several executive secretaries have been appointed to assist in tracking the progress of report compilation and data consolidation.
02. **Impact Assessment**
 - Distribute questionnaires to stakeholders, identify material topics, and prioritize the reporting order based on their impact significance.
03. **Draft Compilation**
 - The working group will collect and compile data, which the executive secretary will consolidate and draft to create the initial version.
04. **Report Review**
 - The report was reviewed by the Sustainable Development Committee, which provided relevant revision suggestions.
05. **External Verification**
 - After the revisions are completed, a third-party organization will be commissioned to conduct verification procedures and issue a third-party assurance statement.
06. **Finalize and Publish**
 - The report has been finalized by the Sustainable Development Committee and is set for publication.

Publication Frequency

The report was initially released in December 2021 and will be published annually moving forward. The information will be accessible to the public on the websites affiliated with the National Kaohsiung University of Science and Technology, enabling individuals from all sectors to view and download it.

Date of Issue: December 2023

Previous Date of Issue: December 2022

Feedback

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Message from the President

The practice of sustainable development involves various aspects of life, and many innovative solutions are born to address sustainability issues. However, more importantly, it starts with fundamental concepts and fosters sustainability in the hearts of future generations. In addition to implementation, it is crucial to learn to approach problems and find solutions with a sustainable mindset.

Since the merger in 2018, the National Kaohsiung University of Science and Technology has seized the opportunity for transformation. Through the integration of academic affairs, we have implemented information-based management in areas such as information systems, management systems, and curriculum frameworks. By analyzing and predicting copious amounts of data, we can respond to campus needs in real-time, resulting in improved operational efficiency and a reduced carbon footprint. By the implementation of service and research projects integrated with curriculum learning, the goals of the SDGs are incorporated into every aspect of campus life, fostering a sense of sustainability in the hearts of young people.

This integration of sustainable ideals with professional knowledge involves delving into the forefront of national development, industrial transformation, and rural revitalization, enabling all sectors to acquire affordable and promising knowledge and skills, thus driving the overall practice of sustainability in society. The university is also committed to creating a campus with a sustainable spirit. In terms of the environment and systems, it promises to safeguard the equal rights of transgender individuals, religious groups, and races. Through effective communication channels, it openly shares information about school affairs and ensures the protection of anonymous complainants. By continuously optimizing the disclosure of information related to the university's development, faculty, staff, students, alumni, and stakeholders can effectively grasp relevant information for the school's sustainable development. Besides utilizing existing public and social media for communication, we have developed a feedback system within the university and established various committees to review key issues impartially and objectively. Through a well-established management system, we are committed to fulfilling the university's social mission of integrating and promoting higher education and public educational resources.

Sustainability has become a universal challenge for all of humanity. Achieving stable and long-term development for human civilization requires diverse changes across institutional, material, and spiritual realms. These necessary adaptations will enable us to progressively transition towards sustainability. This transformation is fueled by multiple forces that urge us to seek improvement and enhance our efforts. At our university, we instill the concept of sustainability in the minds of our future generations. We transcend the barriers of race, language, and gender on campus, implementing diverse changes that demonstrate how to transform sustainable ideals into reality for the world to witness. Our primary goal is to cultivate an independent educational environment within the university that evolves in step with human civilization. We highlight its role in fostering the unrestricted growth of knowledge and ideas, nurturing innovation, and embracing the responsibility to challenge and showcase future possibilities to society.

President of NKUST, *Yang Ching-yu*

December, 2023



Everlasting Sustainable Glory

Global Views Monthly

Ranked Fifth in the "2022 Best Universities in Taiwan" in the technological and vocational category.
Ranked Third in the "2022 Corporate's Favorite University Student's Survey" in the technological universities category.

Common Wealth Magazine

"CommonWealth USR University Citizens - Public Vocational College Groups" has been ranked in the top 5 for three consecutive years from 2020 to 2022 and has achieved the highest score in the "Social Engagement" category.

Cheers Magazine

Ranked 3rd nationally and 1st among the top technological universities in the southern region in the "Corporate's Favorite University Student's Survey" for 5 consecutive years from 2018 to 2022.

2022 TCSA

Silver for "Sustainability Report Award."

2022 National Sustainable Development Award

Honored with the "2022 National Sustainable Development Award in the Education Category" by the National Council for Sustainable Development, making it one of only two technological universities in the country to achieve this prestigious recognition.

2022 TSAA: 3 Gold, 1 Silver

Gold

-  Coastal Placemaking: Diamond Fish Village - Kaohsiung Yong'an Fishing Village Project
-  Yanchao: Placemaking from New Agriculture
-  Good Fish Next Door Project

Silver

-  Learning from the Earth and Coexisting with the Community



Educational Performance and Recognition

No.2

World's Top 2% Scientists 2022

35 teachers from NKUST were listed, ranking 10th among national universities and 2nd among technological universities in 2022.

No.1

Youth Development Administration, Ministry of Education U-start Innovation and Entrepreneurship Program

In 2022, a total of 8 outstanding teams were selected for the Original Program and the Innovation and Entrepreneurship Program. They received a total of NT\$4.7 million in entrepreneurial awards, ranking first among national technological universities in southern Taiwan.

NT\$397.59M

Ministry of Education's Subsidy for Higher Education SPROUT Project

Received a subsidy of NT\$397.59 million in 2022.

38 projects

The Ministry of Education's Subsidy for Higher Education Teaching Practice Research Program

The Ministry of Education has approved 38 projects for the Teaching Practice Research Program in higher education institutions in 2022, receiving a grant of NT\$10,351,840.

82 projects

Research Grant for University Students Approved by the National Science and Technology Council

In 2022, 82 projects were approved, ranking the school 1st among technological universities and 6th among national colleges and universities.

No.1

The Ocean Affairs Council's Subsidy for University Student Research Projects

The council has approved 6 research projects for college and university students under the Special Research Program. The total funding allocated is NT\$430,000, ranking it at the top in terms of the number of approved projects and total funding amount in the country for the year 2022.

CHAPTER 1

Sustainable Vision



- 1.1 About NKUST
- 1.2 University Data
- 1.3 Vision for Academic Development
- 1.4 Sustainable Values and Action Strategies



1.1 About NKUST

1.1.1 History and Development of the University

The university was established on February 1, 2018, following the merger of National Kaohsiung Marine University, National Kaohsiung University of Applied Sciences, and National Kaohsiung First University of Science and Technology. This consolidation was a response to the challenges posed by declining birth rates and global market changes, aligning with the government's policy on the consolidation of higher education institutions. Originally established in 1946 as the Provincial Keelung Marine and Fishery Senior Vocational School, the National Kaohsiung University of Marine Science and Technology is among the earliest of the three schools, with a history spanning over 75 years. Under the careful planning of successive presidents and the diligent efforts of the entire faculty and students, our university has continued to thrive and has grown into a first-class institution with distinctive features and an international perspective.

1.1.2 Campus Scope and Services

NKUST currently has five campuses, namely Jiangong Campus, Yanchao Campus, First Campus, Nanzih Campus, and Cijin Campus, located in the administrative districts of Sanmin, Yanchao, Nanzih, and Cijin in Kaohsiung City. These campuses provide students with a high-quality and diverse learning environment, cultivating over 7,000 students each year for the workforce. Our university offers a wide range of academic programs, including day programs for five-year junior college, two-year technical college, four-year technical degrees, and master's and doctoral degrees. We also have continuing education programs for two-year and four-year technical degrees, as well as master's programs for working professionals, and various courses for lifelong learning. Our classes and teaching services are available to a large number of students, and we also welcome visits from high schools and vocational schools to exchange ideas. In 2022, a total of 669 high school and vocational school students visited our campus.



First Campus

No. 1, Daxue Rd., Yanchao Dist., Kaohsiung City/No. 2, Zhuoyue Rd., Nanzhi Dist., Kaohsiung City

Located in the southeast corner of the urban planning zone in Kaohsiung, it is adjacent to the Citaou Science Park (under construction). The campus spans the Sun Yat-sen Freeway, with the academic and administrative areas in the eastern campus and the sports and recreational areas on the western campus, connected by the University Bridge for transportation. It boasts a vast area and beautiful campus scenery, housing the College of Engineering, the College of Intelligent Mechanical and Electrical Engineering, the College of Foreign Languages, the College of Finance and Banking, the College of Electrical Engineering and Computer Science, the College of Management, and the Innovation and Entrepreneurship Education Center.



Yanchao Campus

No. 58, Shenzhong Rd., Yanchao Dist., Kaohsiung City

The campus is traversed by the Dianbao River, a tributary of the Shenshui River. It is surrounded by mountains and water, creating a beautiful environment. The campus buildings are developed with low density, presenting a prototype of an ecological campus. It fosters humanities and hosts the College of Humanities and Social Sciences*, the College of Intelligent Mechanical and Electrical Engineering, and the College of Management.



Nanzih Campus

No. 142, Haizhuan Rd., Nanzhi Dist., Kaohsiung City

Nearby Kaohsiung Nanzhi Technology Industrial Park and transport convenient Kaohsiung MRT Housing Station, featuring the College of Hydrophore Science, College of Maritime, College of Marine Commerce, College of Electrical Engineering and Computer Science, as well as a College of General Education.



Jiangong Campus

No. 415, Jiangong Rd., Sanmin Dist., Kaohsiung City

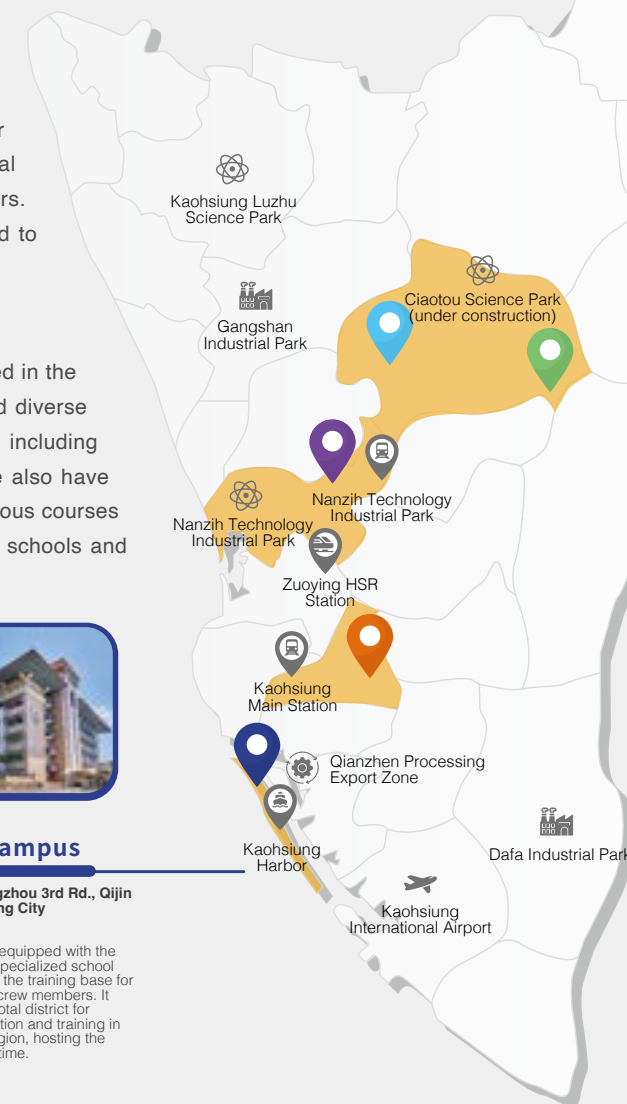
Convenient living facilities, coupled with excellent transportation, contribute to the development of continuing education and outreach programs, fostering a large pool of industry professionals. The university actively engages with the community, upholding its social responsibility. It comprises the College of Engineering, the College of Intelligent Mechanical and Electrical Engineering, the College of Electrical Engineering and Computer Science, and the College of Management.



Cijin Campus

No. 482, Zhongzhou 3rd Rd., Qijin Dist., Kaohsiung City

The campus is equipped with the country's only specialized school pier, serving as the training base for merchant ship crew members. It stands as a pivotal district for maritime education and training in the southern region, hosting the College of Maritime.



* Starting from August 1, 2023, it will be renamed as the College of Innovation and Design.

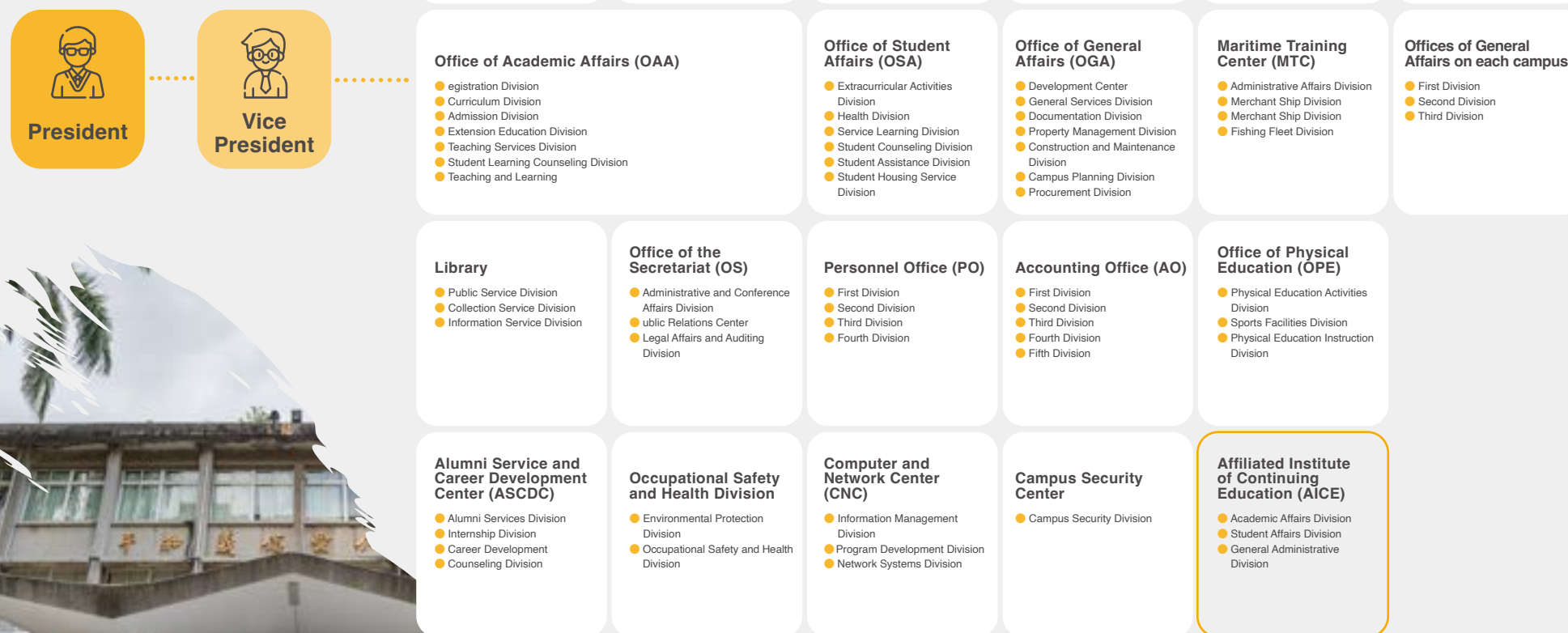


1.1.3 Organizational Structure

The administrative and academic units operate according to the "Organizational Regulations" passed at the 4th University Council of the 2022/2023 academic year of this university on June 15, 2022. The organizational structure is described as follows:

Overview of Administrative Unit Organization

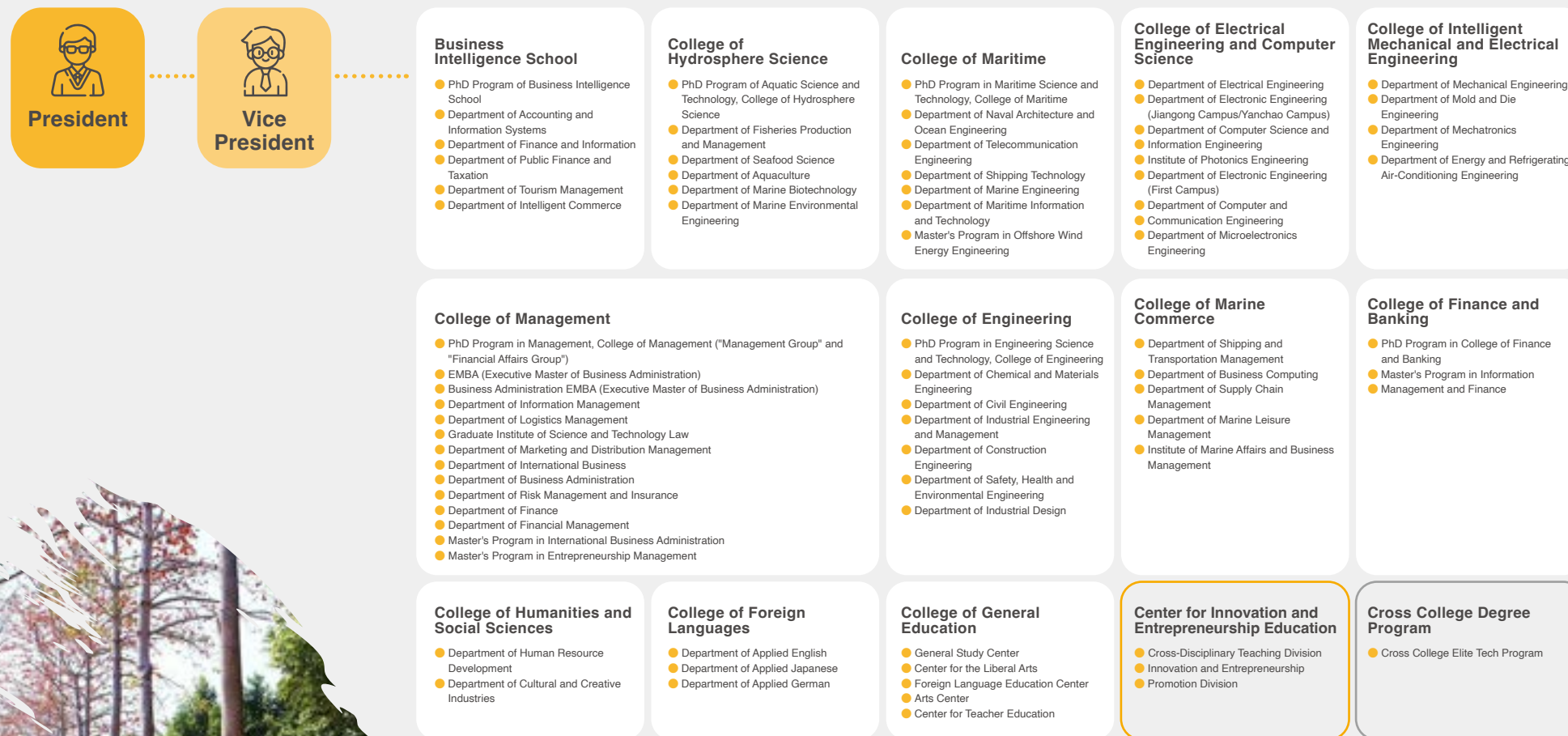
A total of 26 administrative units have been established, along with an Institute of Continuing Education, as indicated in the diagram.





Organizational Overview of Academic Units

Currently, there are a total of 12 colleges, 1 primary academic unit, and 1 interdisciplinary degree program, as shown in the diagram.



1.2 University Data



Campus Area

2,163,403.87 / square meters

Average campus area per student

76.06 / square meters



Number of colleges^{*3} | 12



Number of departments^{*4} | 49



Number of independent institutes^{*5} | 3



Number of school-level research centers | 19



Number of college-level research centers | 40



Total floor area

608,332.23 / square meters

Average floor area per student

21.39 / square meters

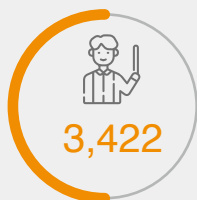
Floor area of Health Care Center^{**1}

547.21 / square meters

Floor area of energy-intensive facilities^{*2}

43,339.94 / square meters

Total number of staff and faculty^{*6}

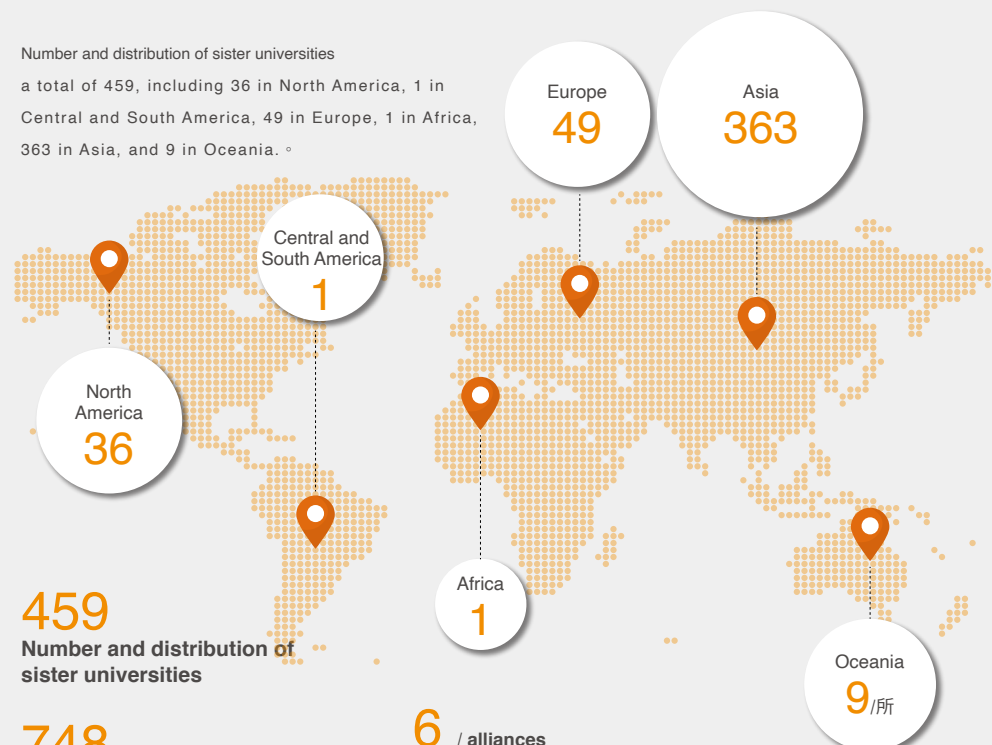


Total number of students^{*7}



Number and distribution of sister universities

a total of 459, including 36 in North America, 1 in Central and South America, 49 in Europe, 1 in Africa, 363 in Asia, and 9 in Oceania. °



459

Number and distribution of sister universities

748

Number of university-level sister school agreements

205

Number of international student exchange program contracts^{*8}

6

/ alliances

Number and Names of Foreign University Alliances

- the French Figure Alliance (Réseau Figure)
- the Polytech Group French Alliance (Réseau Polytech)
- the HAWtech-TAltech Alliance
- the Taiwan-Japan Alliance of Local Revitalization and Social Practice
- the Cross-Strait Innovation and Entrepreneurship University Alliance
- the ST9&E9 Alliance.

*1.Includes the Health and Hygiene Section Group, Infirmary, Health Education Guidance Office, Observation Lounge, Wellness Center, and Lactation Room.

*2.Statistical data for the Library and Information Building at the Yanchao Campus and the Library and Information Center at the First Campus.

*3.The latest statistical data for the number of colleges, departments, and independent institutes is as of August 1, 2023. Furthermore, the number of colleges does not include the Innovation and Entrepreneurship Education Center and the interdisciplinary degree programs.

*4.Excluding independent institutes, doctoral programs, part-time students, and degree programs.

*5.For the Institute of Photonics Engineering, the Institute of Marine Affairs and Business Management, and the Graduate Institute of Science and Technology Law.

*6.Including full-time faculty, part-time faculty (0.2 FTE), regular staff, university-endowed staff, project-based employees, project researchers, and part-time assistants (0.2 FTE).

*7.As of October 15, 2022, the calculation includes doctoral programs, master's programs, four-year technical programs, two-year junior college, five-year junior college programs, and in service master's programs.

*8.By the end of 2022, we have signed school-level student exchange programs and dual-degree agreements with 205 sister schools.



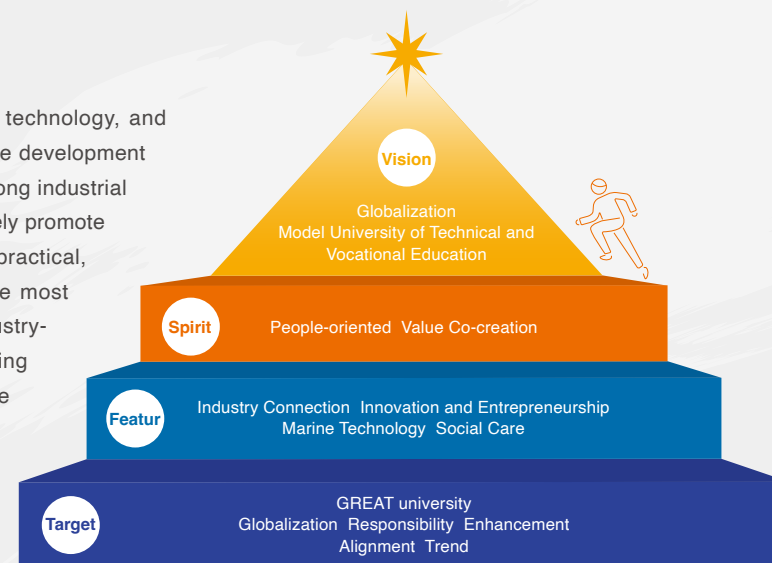
1.3 Vision for Academic Development

1.3.1 Unique Features of NKUST

Our university is characterized by four key features: industry connection, innovation and entrepreneurship, marine technology, and social care. In addition to upholding the founding principles of the three original schools, we prioritize global sustainable development goals and integrate them into our four main features. We have long-term connections with regional industries and a strong industrial foundation in electrical engineering, which defines our industry connection feature. In response to global trends, we actively promote education in innovation, smart business, and interdisciplinary practical courses, emphasizing students' innovation, practical, interdisciplinary, and employability skills. This represents our innovation and entrepreneurship focus. We house the most comprehensive marine technology-related departments, establishing a high-quality and complete foundation for industry-academia research and development in marine technology. As the only vocational university in the country cultivating marine professionals, we distinctly represent the essence of marine technology. As global citizens, we embrace the responsibility of global sustainable development and actively integrate it into our academic pursuits, embodying our commitment to social care.

1.3.2 Development Vision

Our university boasts several strengths: a sincere and straightforward campus culture, diverse academic departments, exceptional teaching and research, and noteworthy achievements by our alumni. We have evolved into a dynamic institution, committed to leveraging these strengths continually, fostering exceptional vocational talents. We aim to propel the growth of industries and enterprises in the southern region, while also leading as a catalyst for societal, national, and global sustainable development. Aligned with our midterm 2022-2025 school development plan, we have set our aspirations under the acronym "GREAT," focusing on "Globalization," "Responsibility," "Enhancement," "Ilgment," and "Trend." We integrate institutional development with national policies and global trends, underscoring our social commitment, with a focus on nurturing forward-thinking talents. Our ultimate objective is to establish an internationally renowned model university for vocational education, earning high acclaim from the global community.



Mission of Institutional Research and Deep Cultivation

The university is committed to promoting academic research to develop the campus ecological system and cultivate university sustainability. Based on research data, the university is implementing smart university affairs and governance and planning a comprehensive research support system. In addition to its use for the SPROUT Project, industry-academia collaboration, enhancing the public nature of higher education, and fulfilling social responsibilities, the Institutional Research Support System serves as the foundation for promoting the school's sustainable development and fostering a positive cyclical ecosystem.

The campus ecology for sustainable development is established through academic research at three levels: Firstly, by employing data-driven methodologies to construct an intelligent, value-added sustainable campus. Secondly, it will utilize academic research data to institute a digital governance mechanism, fostering the co-creation of school value. Lastly, achieving precise decision-making based on academic data to address the requirements for sustainable development within educational institutions. At the same time, in response to advocating openness within the SPROUT Project, we aim to compile critical research topics for stakeholders. These summaries will emphasize key findings and be published on our university's website for public reference.



University's Website



1.4 Sustainable Values and Action Strategies

Based on the SDGs 17 partnership, our university integrates internal and external resources to advance the practice of university responsibility, professional ethics, and sustainability. Aligned with our development vision, we expand on the concept of FORCE, representing our sustainable values as Foresight, Organization, Responsibility, Coordination, and Expansion.

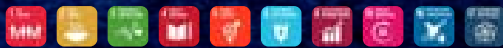


1.4.1 Sustainable Action Strategy of NKUST

Values	Foresight	Organization	Responsibility	Coordination	Expansion
Action Strategy	●●● The transformation of our sustainable mission, transitioning from BEST to GREAT Not only embracing BEST as our sustainable vision but also integrating the Sustainable Development Goals (SDGs) into our mid-term plan to evolve into a GREAT university. Sustainable operations achieving net zero carbon emissions Establishing sustainable investment guidelines and implementing audit mechanisms. Establishing a solid foundation for sustainable development Promoting cross-departmental sustainability communication within the university, and building strong partnerships through the establishment of alliances, policy formulation, and leading by example.	The carbon reduction solution for multiple campuses The General Administration Division ensures efficient resource integration, reduces paper printing and staff movement, effectively reduces carbon emissions and resource waste, and the standard SOP enhances team administrative efficiency. Focusing on sustainable development The creation of the Office of Sustainable Development and the Office of Operations and Management aims to ensure ongoing enhancement of the school's sustainability. These offices will conduct regular assessments to identify and rectify any shortcomings.	Not only providing emergency assistance but also supporting the underprivileged Ensuring the rights and development of vulnerable groups on campus by establishing and providing software and hardware services, fostering interdisciplinary collaboration among industry, academia, and research. Harnessing the power of universities as a social responsibility Through the implementation of projects, long-term organizational operations, service, and guidance, effectively extending school resources to local communities, and embedding the concept of sustainability in society.	Cross-domain collaboration in the spirit of sustainability Creating an environment and opportunity for interdisciplinary communication for teachers and students, with a special emphasis on cultivating empathy in the context of sustainability, to achieve sustainable collaboration at the operational level. Utilize technology to empathize with stakeholders Design appropriate channels for dialogue, analyze the important issues that all stakeholders are concerned about, promote self-improvement within the school, and enhance contribution.	Opportunities for a sustainable smart campus Many of the systems are developed by our own faculty, with low cost and high efficiency. These systems can be expanded to other schools through experience sharing, collectively shaping a green and energy-efficient campus. Creating a sustainable and shared future Through event organization, mentoring programs, digital platform development, or book publishing, we aim to share the sustainable achievements of our school and promote mutual prosperity with external organizations.

CHAPTER 2

University Governance



- ②.1 Diversified Governance
- ②.2 Advocacy and Collaboration
- ②.3 Workforce Diversity
- ②.4 Gender Equality Issues
- ②.5 Grievance Mechanism
- ②.6 Campus safety
- ②.7 Occupational Safety and Health
- ②.8 Food Safety and Health
- ②.9 Information Security
- ②.10 Material Topics and Stakeholders





2.1 Diversified Governance

2.1.1 Decision-Making Meetings and Organizations

According to Article 3 of the Organizational Regulations of our school, there shall be one president responsible for overall school affairs, and two to five vice presidents to assist the president in handling school affairs. Each administrative unit shall establish comprehensive business standard operating procedures under relevant laws and regulations and shall be responsible for implementing various academic decisions based on delegated authority at each level.

To facilitate the promotion of school affairs, the university has established the University Council to review important matters within the university in accordance with Articles 35 and 36 of the organizational regulations. The University Council is the highest governing body within the university and holds two meetings per semester. The council is chaired by the president, with the vice president, heads of first-level administrative units, heads of academic units at the college level (including deans of each college and the director of the Innovation and Entrepreneurship Education Center), and the director of the university's affiliated continuing education college serving as ex officio representatives. The council is composed of elected representatives, including faculty representatives, staff representatives, student representatives, and other relevant personnel. Faculty and staff representatives are elected by anonymous voting. Student representatives consist of the president of the student union and the chairman of the student council, with any remaining vacancies filled by the student union according to their election procedures. Other relevant personnel representatives are appointed by the Kaohsiung National University of Science and Technology Faculty Association. Additionally, there are 12 meetings and various committees. The meetings of all types of committees are conducted using a deliberative system, allowing the interests and needs of all parties to be reflected within the committees to achieve restraint and balance and to prevent authoritarianism. If the chairperson is aware of any conflicts of interest, they will recuse themselves, ensuring a diverse and balanced implementation of university governance.

Agendas and Deliberations of Various Meetings



University Council

- ◎ School development plan and budget.
- ◎ Organizational regulations and various important provisions.
- ◎ The establishment, modification, and termination of colleges, departments, institutes, degree programs, centers, departments, halls, offices, divisions, other units, and affiliated institutions.
- ◎ Academic Affairs, Student Affairs, General Affairs, Research, and other important matters within the school.
- ◎ Regarding the deliberation on the teaching evaluation measures.
- ◎ Resolutions of committees or project groups established through the University Council.
- ◎ Meeting proposals and the president's suggestions.



Administrative Meeting

Discussion of important administrative matters and regulations of our university.



Meeting of administrative units including Teaching Research and General Administration

The important matters and relevant regulations discussed and deliberated by various units include the Academic Affairs Meeting, Student Affairs Meeting, General Affairs Meeting, Research and Development Meeting, Ocean Technology Development Meeting, Joint Education Meeting, and Innovation and Entrepreneurship Education Meeting.



College Affairs Meeting

Discuss issues related to teaching, research, counseling, services, and other administrative matters within the college.



(Division, Office) Affairs, Education Center, and Degree Program Meetings

Discuss issues relating to various departments (division, office) affairs, centers, graduate school, degree programs, research, counseling, servicing and other matters.



Department, Building, Center, and Office Affairs Meeting

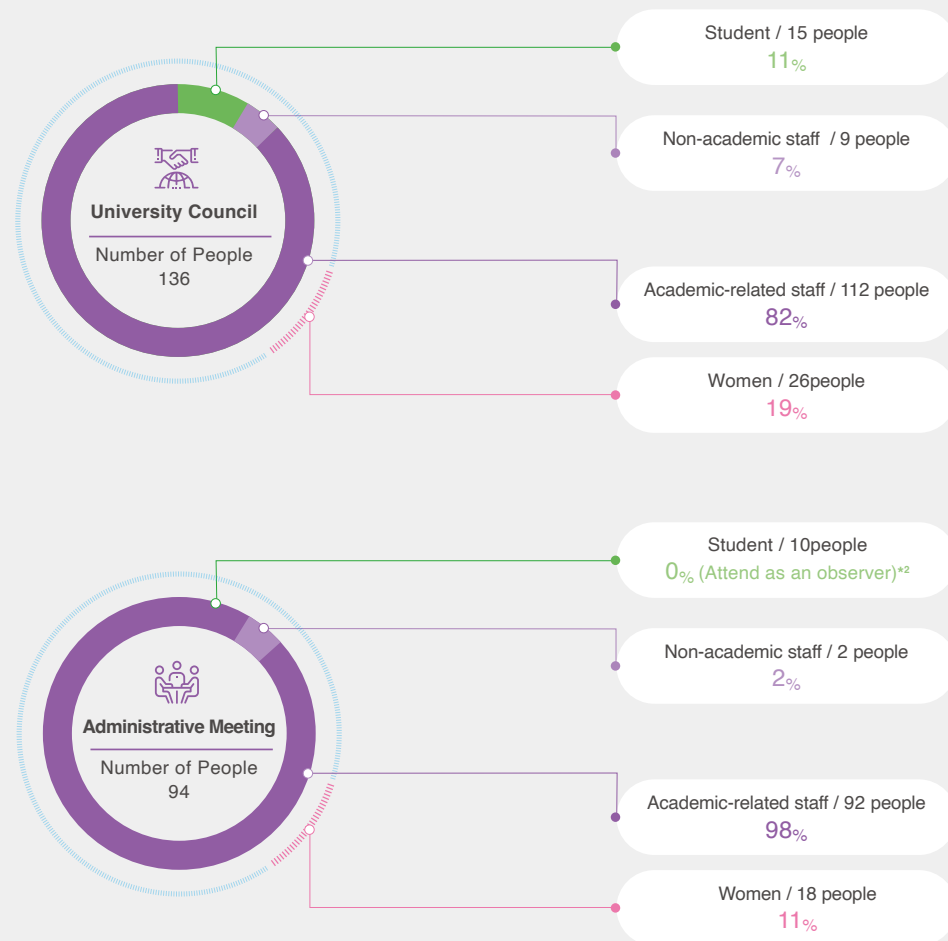
Discuss matters related to each respective unit.



Various Committees

The committee oversees specific matters, including the Teacher Evaluation Committee, Teacher Grievance Review Committee, Students Appeal Review Committee, school fund Management Committee, Gender Equality Education Committee, Campus Planning Committee, Campus Development Committee, Curriculum Committee, Legal Committee, and Special Education Promotion Committee. Additional committees may be established as necessary.

Composition of Participants in the Important Decision-making Meeting for the Academic Year 2021/2022*¹



Education and training for senior executives

To consolidate consensus among senior executives from the five campuses and promote campus integration and communication, a conference on administrative and academic leadership consensus, titled "Empathy, Common Good, Accountability, Innovation," was held on August 23 and 24, 2022, at the Kenting H-Resort. The conference aimed to discuss academic issues and campus development strategies. The results handbook has been compiled and uploaded to the Secretary's Office website for public reference.

Course

Sharing and Exchange of University Affairs: Office of Academic Affairs, Office of Student Affairs, Office of General Affairs, Office of Research and Development, Life Education, Aesthetic Education

Values Leadership: Practicing the Core Values of High-Tech

Experience Transfer Seminar: 1. Things that the Administrative Executive should pay attention to

2. How to Enhance Research Capacity

3. How to Adjust Colleagues' Work Habits and Face New Tasks and Changes—Taking the Construction and General Affairs Office as an Example

Attendees

President, Vice President, Heads of Administrative Units, Deans, Department Heads

Additionally, in order to promote unity and cooperation, enhance work efficiency, safeguard the rights and interests of faculty and staff, and facilitate communication and dialogue between labor and management, the university establishes pertinent committees, review groups, and labor-management meetings to address various matters concerning faculty and staff.

*1. The term of office for participants in the important decision-making meeting is from August 1, 2021, to July 31, 2022.

*2. The student representative at the Administrative Meeting attends as an observer and is not included in the total count or ratio statistics of the meeting.



Agenda and Composition of Faculty and Staff-related Meetings

Meeting Name		Faculty Evaluation Committee		Human Resources Review Committee for the Employment of Staff funded by the school fund *		Labor-Management Meeting	
Deliberation Items		Deliberation involves the appointment, term, promotion, suspension, termination, non-renewal, and justification for dismissal of faculty at this university. It encompasses handling breaches of faculty obligations and assessments of teaching qualifications, as well as decisions on rewards, penalties, further education, academic research, faculty evaluation, tenure extension, appointment, and promotion of research personnel. These discussions lead to the final resolution of cases, complying with applicable laws and regulations.		Allocation of university-endowed staff, manpower planning, categorization, salary determination, and other related matters, including ad hoc reviews concerning school fund personnel.		Matters regarding the working hours and employee rights of laborers shall be subject to mutual agreement between labor and management.	
Composition of Members		Number of People	Ratio	Number of People	Ratio	Number of People	Ratio
	Total number of participants in the meeting	45	-	11	-	18	-
	Academic-related staff	45	100%	9	81.8%	9	50%
	Non-academic staff (staff representative)	0	0%	2	18.2%	9	50%
	Number of Women	15	33.3%	4	36.4%	8	44.4%

* Human Resources Review Committee for the Employment of Staff funded by the school fund for the 2021/2022 and 2022/2023 academic year.



Organizational Structure and Tasks of the Sustainable Development Report Compilation Committee and Working Group

In response to the compilation of the sustainability report, our university has established a Compilation Committee to differentiate various levels of work and ensure the implementation of related tasks. The committee regards the University Council as the highest governing body, with the principal serving as the representative and convener. Several members decide on the main content and compilation, while the executive secretary team acts as a bridge between various working groups. By establishing the compilation committee and clarifying responsibilities, we aim to fully coordinate, summarize, and showcase the school's sustainable highlights.

Committee Convener

- To serve as the chairman of meetings to communicate and coordinate
- To appoint compilation tasks to each department
- To authorize the Office of the Secretariat to assist in collecting information, contact, coordination and tracking

Deputy Committee Convener

- To assist the convener to promote affairs
- To host the meeting when the post of the convener falls vacant or when the convener is absent
- To assist the convener to supervise each unit to write the report
- To execute other tasks designated by the convener

Committee Members

- To attend Sustainability Report Committee meetings, and make decisions based on the content
- The decisions involve the structure of the report, the annual operational procedure, the content verification method, draft reviews, the final draft, and other major affairs

The current list of members of the Sustainable Development Report Compilation Committee*

Principal (Convener), Chief Sustainability Officer (Vice Convener), Director of Academic Affairs, Director of Student Affairs, Director of General Affairs, Director of Research and Development, Industry-Academia Collaboration, Director of International Affairs, Director at the Office of Marine Science and Technology, Director of Finance, Director at the Environmental Health and Safety Center

Executive Secretary

- To decide on the preliminary structure, take charge of administrative procedures, and arrange for meetings and contact
- To contact, coordinate and track progress with each unit
- To stay updated with the timeline for internal information submission and organization

Members of in all working groups

- To confirm information prior to Committee meetings, and propose suggestions for Committee members to refer to
- To attend Sustainability Report Committee meetings
- Other decisions and management tasks at different phases

Members of in all working groups (Staff members of each unit)

- To be in charge of writing content, providing information, and conducting verification and other affairs

*The current committee member's term is from August 1, 2023, to July 31, 2024.



2.1.2 Internal Control Mechanisms and Risk Management

To effectively ensure the continuous and proper operation of internal controls as part of our self-supervision mechanism, our university has established the "Guidelines for the Establishment of National Kaohsiung University of Science and Technology Internal Control Group" and the "Guidelines for the Establishment of National Kaohsiung University of Science and Technology Internal Audit Group" based on the Executive Yuan's issuance of the "Government Internal Control System Supervision Guidelines." Two Vice Presidents appointed by the President respectively lead the university's Internal Control Group and Internal Audit Group. Meetings are convened at least once per semester. The results of the implementation of internal control and internal audit are documented in the Internal Control Statement, which is jointly signed by the internal control convener, internal audit convener, and the president.

The audit for our school in 2022 was conducted from August 22nd to September 30th, 2022. There was a total of 51 internal control audit items, and the audit results showed no significant deficiencies. The audit was passed. A total of 57 improvement measures or suggestions were proposed. We propose continuing periodic reviews and evaluations of the effectiveness of relevant operational mechanisms and control measures as a reference for future strengthening or improvement. Detailed execution details and processes are all disclosed on the university's website in the section providing public access to school affairs information and internal control and audit execution status.



school affairs information
and internal control



Internal Control

According to

Guidelines for the Establishment of the Internal Control Group at National Kaohsiung University of Science and Technology.

Task

Manage internal control, internal audit activities, and related training and education. Review and strengthen existing internal controls while planning and conducting self-assessments of internal control systems.

Execution Focus

- Regular risk assessment operations are conducted in a rolling manner.
- Conduct annual internal control self-assessment operations.
- Each administrative unit is required to develop and enhance the SOP for managing rights in business processes.



Internal Audit

According to

Guidelines for the Establishment of the Internal Audit Group at National Kaohsiung University of Science and Technology.

Task

Develop annual audit plans, execute them, and conduct self-assessments of internal control systems for various units, including evaluating plan implementation and reviewing the results.

Execution Focus

- An annual audit plan is established for the execution of internal audits.
- Regularly review and revise business processes using the PDCA cycle.



Audit of school funds

According to

Implementation Measures for Auditing the school fund of National Kaohsiung University of Science and Technology.

Task

Based on the results of internal control risk assessment, an annual audit plan will be formulated and executed with the principal's approval. Additionally, an annual audit report will be prepared and presented to the University Council. Each year, we track and monitor any deficiencies or abnormalities until they are resolved.

Execution Focus

- Post-audit of personnel, financial, operational, and related party transactions involving the cycle of school fund transactions.
- Post-audit of cash receipts and bad debt handling.
- Audit and inventory of cash, bank deposits, securities, stocks, bonds, and fixed assets.
- Regular evaluation, auditing, and compilation report on the achievement of performance goals for various operations of the school fund.
- Audit and evaluate the efficiency of school fund utilization and the effectiveness of various expenditures.
- Other project audit matters.

2.1.3 Financial Information

Committee for the Management of Endowment Funds

In accordance with the "Regulations Regarding the Management" and "Supervision of School Funds at National Universities/Colleges," NKUST has established the Guidelines for National Kaohsiung University of Science and Technology's Establishment of School Funds Management Committee. The tasks of the School Funds Management Committee include reviewing the annual budget proposal for the school funds, assessing the performance of the income and expenditure of the school funds, reviewing annual financial planning and investment planning, and reviewing the regulations for the management of self-generated revenue and expenditure. The committee shall hold meetings at least once per semester and may convene special meetings when necessary.

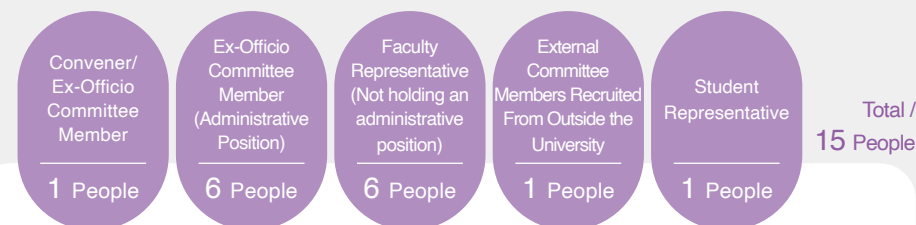
According to the Guidelines for the Establishment of the school funds Management Committee at NKUST, the committee will comprise eleven to fifteen members. The President, one Vice President, the Director of Finance, the Dean of Academic Affairs, the Dean of General Affairs, the Director of Research and Development, and the Director of Accounting will serve as ex officio members. The President will function as the convener, while the remaining members will be chosen by the President and appointed after approval by the University Council. The committee must ensure that at least one-third of its members are faculty representatives without administrative roles. External professionals may be engaged as needed. Additionally, the committee is required to include at least one student representative. The term of office for committee members is two years, aligned with the academic year system.

The financial statement of the school's school fund is shown in the table below. Operating revenue is NT\$5,193,806 thousand, non-operating revenue (including investment income) is NT\$260,240 thousand, operating expenses are NT\$5,506,090 thousand, and non-operating expenses are NT\$107,809 thousand. Among them, the revenue and costs of industry-academia collaboration come from related projects in collaboration with industry and academia. The revenue from teaching and research subsidies and other subsidies from the government amounts to a total of NT\$2,780,786 thousand.



Guidelines for the Establishment of the school funds
Management Committee at NKUST

Members of the 3rd school funds Management Committee at NKUST



School Fund Management Committee for NKUST

- 1 Review of the annual budget proposal for the school funds.
- 2 Assessment of the income and expenditure as well as the utilization performance of the school fund.
- 3 Deliberation on annual financial planning and annual investment planning.
- 4 Review of self-generated revenue and expenditure management regulations.
- 5 Review of the school fund's revenue and cost reduction plan.
- 6 Review of the allocation ratio of administrative management fees or surplus funds from self-generated revenue.
- 7 Examining the allocation, terms, methodologies, and assessment criteria for personnel expenses funded by self-generated revenue.
- 8 Review of the performance report of the school fund.
- 9 Deliberation on the financial statements and Board meeting minutes of the National Kaohsiung University of Applied Sciences Foundation for Education and Culture.
- 10 Other matters concerning budgeting, income and expenses, custody, and utilization of the school funds were deliberated.



Overall Performance of the 2022 School Fund

Unit: New Taiwan Dollars per Thousand

Revenue and Expenditure	Item	Amount
Revenue	Business Revenue	5,193,806
	Other Business Revenue (Including investment revenue)	260,240
Expenditure	Operating Costs	5,506,090
	Other Operating Costs	107,809

2022 School Fund Business Revenue and Expenditure Category Amounts and Ratios*¹

Unit: New Taiwan Dollars per Thousand

Source of Income	Amount	Ratio
Tuition and Miscellaneous Fees Revenue ²	1,233,314	23.7%
Revenue From Industry-Academia Collaboration	1,073,283	20.7%
Income from Education Promotion	82,151	1.6%
Revenue From School Teaching and Research Grant	2,158,048	41.6%
Other Subsidy Income	622,738	12.0%
Miscellaneous Business Revenue	24,272	0.5%
Total	5,193,806	100%
Source of Income	Amount	Ratio
Costs of Teaching, Research, and Counseling	3,707,917	67.3%
Cost of Industry-Academic Collaboration	1,029,629	18.7%
Cost of Continuing Education	82,061	1.5%
Student Scholarships and Incentives	181,875	3.3%
Management and General Expenses	484,669	8.8%
Miscellaneous Business Expenses	19,939	0.4%
Total	5,506,090	100%

Investment Targets and Scale of School Fund

The investment amount of our school, excluding fixed deposits, is determined in accordance with Article 14 of the Regulations Regarding the Management and Supervision of School Funds at National Universities/Colleges. Considering factors such as the school's cash safety stock, the 5th Investment Management Group meeting in 2022 has decided that the upper limit of the school's funds for investment is 15% of the available funds, with a total amount of NT\$750 million. As of the end of 2022, the actual investment amount stands at NT\$426.343 thousand. The investment targets and amounts of NKUST from 2019 to 2022 are summarized in the table below.

Target and Scale of School Funds Investment in the Past 3 Years*³

Unit: New Taiwan Dollars per Thousand

Year		2020	2021	2022
Investment Targets and Amounts	Overseas Bonds	382,230	319,754	337,161
	Overseas Mutual Fund	43,285	45,618	48,242
	Taiwan Stock ETF	0	2,655	40,940
Scale of School Fund Investments		425,515	368,027	426,343

*1. The financial statements of our university are prepared using the accrual basis of accounting.

*2. Before collecting tuition and fees from students, our school has disclosed performance data on the school's information public website (<https://public.nkust.edu.tw/>).

*3. NKUST was established through a merger on February 1, 2018, and no investments were made that year. As of December 30, 2022, the total number of investment targets comprises 28 overseas bonds, 6 overseas funds, and 4 Taiwan stock ETFs.

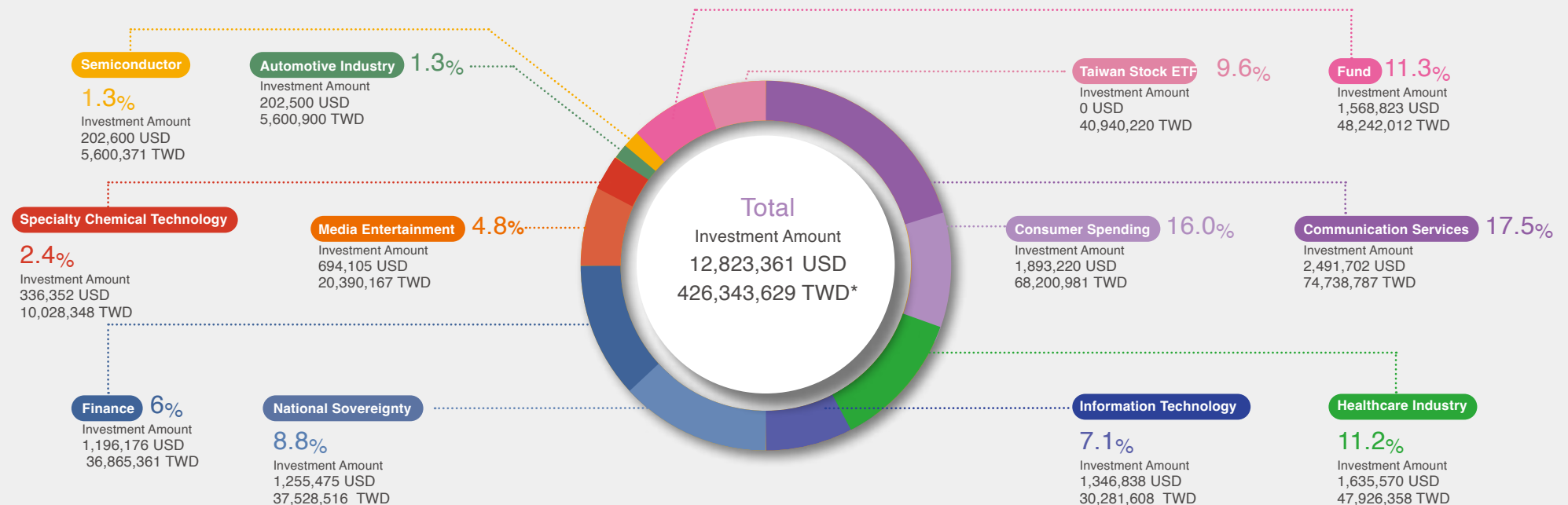


2.1.4 Investment Management and Sustainable Investing

To improve the efficiency of the school's fund investment, the institution will factor in the safety stock of the school fund going forward. Following the Regulations Regarding the Management and Supervision of School Funds at National Universities/Colleges and NKUST's Investment Income and Expenditure Management Guidelines, the Investment Management Group meeting and the School Fund Management Committee will regularly review and adjust the upper limit of the investment quota. The allocation of the 2022 school fund investments will be as follows: 50%-70% in investment-grade bonds, 0%-30% in other types of investments (including stocks, funds, preferred stocks, convertible bonds, or ETFs), with the allocation ratio subject to flexible adjustments based on economic conditions.

The university's school fund investments prioritize long-term investment and stable returns. The investment portfolio is appropriately diversified across different industry sectors to mitigate risks associated with single-industry investments. The university also adheres to the principles of Socially Responsible Investing (SRI), incorporating social responsibility and ESG principles into investment decision-making. This ensures that investment projects are evaluated for their impact on sustainable development and that the investment targets are free from any human rights violations, and in compliance with relevant regulations. Based on the statistics of our NKUST's school fund investment portfolio as of December 30, 2022, the top five industries by investment proportion are as follows: Communication services (17.5%), consumer goods (16.0%), funds (11.3%), healthcare industry (11.2%), and national sovereignty (8.8%).

The industry distribution of the 2022 school fund investments



* The current value of the New Taiwan Dollar is estimated at an exchange rate of 30.66, based on the spot buying rate against the US Dollar on December 30, 2022, as provided by the Bank of Taiwan.



Sustainable Investment Policy and Progress Planning

In accordance with the six principles of responsible investment published by the United Nations in 2006, ESG (Environmental, Social, and Governance) issues should be integrated into the investment analysis and decision-making process. Our university explicitly states in point 10 of the Guidelines for Investment Income and Expenditure Management: When making diverse investments, our university should refrain from investing in carbon-intensive industries, particularly coal and oil, and must take into account environmental, social, and corporate governance (ESG) factors when selecting investment targets. Choose companies that prioritize sustainable and responsible business practices, emphasizing environmental protection and social responsibility. Prioritize those that embody ESG or CSR concepts, and assess their suitability for inclusion in the asset allocation of the school fund.

After assessing the industry composition of our school's sustainable investment targets as of December 30, 2022, it has been observed that both the targeted companies and government bonds within the bond portfolio have adopted ESG-related activities and measures. This aligns with the guidelines outlined in the Investment Income and Expenditure Management Guidelines, showcasing our dedication to sustainable investment policies.

The industry proportion of sustainable investment targets in 2021 and 2022

Unit: New Taiwan Dollars

Industry	2021			2022		
	Investment Amount (TWD)	Investment Proportion	ESG Proportion	Investment Amount (TWD)	Investment Proportion	ESG Proportion
Communication Services	74,738,787	20.43%	100%	74,738,787	17.5%	100%
Consumer Spending	68,200,981	18.27%	100%	68,200,981	16.0%	100%
Healthcare Industry	41,719,923	11.58%	100%	47,926,358	11.2%	100%
National Sovereignty	37,528,516	10.29%	100%	37,528,516	8.8%	100%
Finance	36,865,361	9.81%	100%	36,865,361	8.6%	100%
Media Entertainment	20,390,167	5.69%	100%	20,390,167	4.8%	100%
Information Technology	30,281,608	8.29%	100%	30,281,608	7.1%	100%
Specialty Chemical Technology	10,028,348	2.76%	100%	10,028,348	2.4%	100%
Automotive Industry	-	-	-	5,600,900	1.3%	100%
Semiconductor	-	-	-	5,600,371	1.3%	100%
Other*	1,571,331	12.88%	-	89,182,232	20.9%	-
Total	368,027,636	100.00%	-	426,343,629	100%	-

* Due to the wide variety of constituent categories in overseas funds and Taiwan stock ETFs, they are uniformly included in the "Other Categories" within this statistical table. The Taiwan Stock ETF investment targets include Yuanta High Dividend (0056ETF), Cathay Sustainability High Dividend (00878), Yuanta Taiwan High Dividend Low Volatility (00713), and Fubon Select High Dividend 30 (00900).

The summary of sustainable investment outlook planned by our university from 2021 to 2023 is as follows in the table below:

Sustainable Investment Progress Planning

2021	2022	2023
Revising the university's investment management regulations, specifying the avoidance of investing funds into carbon-intensive industries (especially coal and oil), and incorporating Environmental, Social, and Governance (ESG) factors into investment considerations.	The formulation of sustainable investment policies is in progress, with experts and scholars invited to engage in consultations and idea exchanges, sharing sustainable investment plans and strategies. This will serve as a reference for the development NKUST's sustainable investment policy.	Following responsible investment guidelines, ESG companies are included in the selection criteria for investment targets. Company behavior indicators are examined within a quantitative analysis framework, maintaining a consistent emphasis on sustainable investment matters. This approach aims to fortify the implementation strategy for distinct ESG investment targets, striving for consistent investment performance and exerting influence within the academic sphere of investment.



All investments made by our school from 2020 to 2022 adhere to the principles of ESG investment.

2.1.5 External Financial Aid Infusion

The total number of external donations received by our school in 2022 was 517, amounting to a total of NT\$27,039,909. Alumni donations accounted for NT\$13,893,888, approximately 51% of the total amount. Donations from the general public amounted to NT\$11,807,208, representing 43% of the total amount. The remaining 6% came from our school's faculty and staff. The main method of donation is through bank transfer (80%), while the remaining 20% is made through cash, credit card, ATM transfer, check, and LINE PAY. The recipient units, in order, are National Kaohsiung University of Science and Technology, Office of the President, Marine Science and Technology, Office of Student Affairs, Office of the Secretariat, Department of Shipping and Transportation Management, Department of Marine Environmental Engineering, and related academic units.



2.2 Advocacy and Collaboration

2.2.1 Membership in Public Associations

In response to the rapid changes in the higher education environment and to promote sustainable development, our university actively participates in domestic university associations. By becoming a member of these associations and engaging in their activities and seminars, we enhance the visibility of our university and explore opportunities for interdisciplinary collaboration and industry-academia cooperation.

The List of Associations Related to Sustainable Development That Our University Participates in

Name of the Association	Purpose and Objectives of the Establishment
Chinese Ocean & Underwater Technology Association	Collaborate with industry, relevant government agencies, and academia to jointly promote the development of marine and underwater technologies, cultivate talent, and facilitate marine scientific research and ocean development.
Oceanographic Society of the Republic of China	To promote academic research, industry development, and exchanges related to the ocean.
Taiwan Ocean Academia-Industry Consortium	To promote the safe development of the marine industry and related sectors, we are committed to providing professional skills education and training, preventing business disasters, cherishing and developing marine resources, and fostering the growth of the marine economy.
Institute of Engineering Education, Taiwan, R.O.C.	Conduct research, promote engineering and science education, cultivate professional talents, serve society, and contribute to national economic development.
Chinese Institute of Engineers	Contacting engineering personnel, researching engineering academics, and applying engineering and technology to promote public and social well-being.
Taiwan Higher Education Society	To strengthen research, practice, policy, and promote the vigorous development of higher education.
Association of National Universities and Colleges of Taiwan	Improve the quality of education, enhance academic research standards, and promote international exchanges.
Association of National Universities of Science and Technology in Taiwan	To create new opportunities for vocational education and enhance the image and competitiveness of vocational schools and colleges.
Association of Technological and Vocational Education in Republic of China	Conduct research, promote engineering and science education, cultivate professional talents, serve society, and contribute to national economic development.
Kaohsiung City Sanmin District Education Association	To conduct research on educational enterprises, enhance the welfare of educational personnel, and assist in the development of the education industry.
Academic-Industry Consortium for Agricultural Biotechnology Park	Collaborate with universities, research institutions, agricultural biotechnology park authorities, and park enterprises to promote industry-academia research cooperation and talent training, enhancing the competitiveness of the domestic agricultural (biotech) industry.
Railway Cultural Society, Taiwan	Linking railways, tourism, and culture as the main focus, serving as a platform for knowledge sharing and industry innovation to promote domestic and international railway tourism.
Academic-Industry Consortium for Southern Taiwan Science Park	Promote the overall development of the Southern Taiwan Science Park to demonstrate diversified integration and enhance the competitiveness of the domestic high-tech industry.
Taiwan Industry-Academia-Industry Consortium	Promote collaborative partnerships and strategic alliances among industry, government, academia, and research institutions to enhance the competitiveness of businesses in the southern region.
Southern Region Vocational College Intercollegiate Integration Alliance	Promote resource exchange and enhance industry-academia collaboration and interaction among schools to nurture industry talents within the technical and vocational education system.
Chinese Association of Industrial Vocational Education	Research industrial vocational education and assist the government in developing industrial vocational education and training.
Taiwan Ciaotou Science Park Academia Industry Consortium	Collaborate with universities, research institutions, governing agencies, and corporations to promote industry-academia collaboration and talent development, enhancing the competitiveness of domestic high-tech industries.



2.2.2 International Cooperation Alliance

Regarding international advocacy organizations, the Center for University Social Responsibility under the Ministry of Education and the Office of Humanities Innovation and Social Practice Programs within the Ministry of Science and Technology have jointly implemented the University Social Responsibility (USR) program since 2017. This program aims to provide guidance to universities in aiding local sustainable development and fostering collaboration towards achieving Sustainable Development Goals (SDGs). Through the Taiwan-Japan Alliance cooperation relationship, we aim to promote substantial collaboration in academic research and higher education between the two parties. Additionally, our goal is to assist domestic universities in their international connections for social responsibility projects and enhance the exposure of universities in the field of social practice.

Currently, our school is a member of six important international alliance organizations and three international cooperation and exchange associations or organizations. By forming alliances with other high-quality international educational institutions, we aim to develop specific cooperation strategies to benefit both alliance schools, strengthen international partnerships, enhance each other's image and competitive advantages, and establish a closely interactive international network. The list is as follows:

The list of international alliance our school participates in

Name of the International Alliance	Collaboration Method
French Figure Alliance (Réseau Figure)	In 2022, a bilateral cooperation memorandum was signed. The Figure Alliance currently consists of 30 French schools and 2 foreign schools. It primarily promotes the CMI program, which is a five-year program consisting of three years for a bachelor's degree and an additional two years for a bachelor's and master's degree. The program focuses on laboratory development and requires students to complete two internships within the five years. From the second to the third year, students are required to participate in a three-month internship, and in the fifth year, they must have six months of internship experience. The program also emphasizes international exchange opportunities for students and strongly encourages them to participate in internships abroad (without academic credits) or engage in laboratory exchanges.
Polytech Group French Alliance (Réseau Polytech)	Réseau Polytech is an alliance of engineering schools in France, with a total of 13 member schools (reaching 15 in 2019). In 2013, it signed an academic exchange memorandum with the Taiwan Technology Group, including our school, to promote academic exchange. 30% of the alliance schools' curriculum is taught by major international corporations, allowing students to participate in corporate project design and laboratory projects, with the goal of cultivating outstanding engineers. The Taiwan-France alliance period can provide students with excellent opportunities for exchange and learning, as well as strengthen academic cooperation in the field of engineering and technology between the two alliances and inter-schools.
HAWtech-TAltech Alliance	Since the signing of the bilateral exchange agreement in 2017, the Taiwan-Germany alliance has connected the alliance systems of Taiwan and Germany, emphasizing the application of technology. By combining the engineering and technology practices of both sides, the alliance aims to improve the quality of technical and vocational education, enhance students' innovative practical abilities, and accelerate the connection between technical and vocational education and industry needs. Currently, we are actively promoting cooperation in five major areas: student exchange, corporate internships, on-campus internships, Summer School, and Visiting Tour.
Taiwan-Japan Alliance of Local Revitalization and Social Practice	The Taiwan-Japan Alliance was officially established in November 2021 as a platform for promoting the exchange of social practice experiences between universities in Taiwan and Japan. The aim is to build a multi-university network that facilitates the exchange of resources, deepens local engagement, and addresses local issues through the integration of practical work, teaching, and research. The alliance seeks to contribute to local revitalization.



Name of the International Alliance	Collaboration Method
Establishment of Cross-Strait University Alliance for Innovation and Entrepreneurship	The Cross-Strait University Alliance for Innovation and Entrepreneurship was established in 2015. It is a collaboration between three national universities in Taiwan (NKUST, National Taipei University of Technology, and National Yunlin University of Science and Technology) and six universities in China (University of Science and Technology Beijing, Jiangsu University, Nanjing University of Science and Technology, Huazhong University of Science and Technology, Hunan University, and Shenzhen University). The alliance aims to create a cross-strait university entrepreneurship ecosystem and establish an environment centered around cultivating an entrepreneurial spirit. It promotes the sharing of collaboration models and mechanisms to enhance practical and academic experience exchange. Every year, one of the member universities of the Cross-Strait University Alliance for Innovation and Entrepreneurship hosts the "Cross-Strait University Alliance for Innovation and Entrepreneurship Summit Forum" for exchange.
The Excellence University Alliance and the International Exchange Strategy Alliance of Southern Taiwan University (ST9&E9).	The Southern Taiwan University International Exchange Strategy Alliance (ST9) consists of 9 public and private universities in southern Taiwan. The Excellent League in Mainland China (E9) is composed of 9 key comprehensive universities with a focus on science and engineering, including Beijing Institute of Technology, Southeast University, Dalian University of Technology, Harbin Institute of Technology, South China University of Technology, Tianjin University, Tongji University, Northwestern Polytechnical University, and Chongqing University. The bilateral alliance, consisting of 18 schools, officially signed a memorandum of cooperation in 2015. The alliance cooperation includes organizing international academic activities, admitting foreign students, inviting overseas scholars to visit, sharing international exchange information, and facilitating faculty and student exchanges. The aim is to combine and share the resources of each alliance school, creating an excellent international educational environment for students in Southern Taiwan.
FICHET Foundation for International Cooperation in Higher Education of Taiwan (ICDF)	1. Obtaining bilateral exchange information with various countries (regions) (education annual conference/principal forum/admissions strategy/seminar). 2. Currently, the foundation only promotes its members through its official website, which has limited effectiveness in expanding the reputation of our school. 3. The foundation is a public-interest corporation affiliated with the Ministry of Education (Department of International and Cross-Strait Education). Given its policy implications, it is recommended to maintain membership qualifications.
SATU (Presidents' Forum of Southeast and South Asia and Taiwan Universities)	1. Every year, the Taiwan side announces research collaboration application information through a letter from National Cheng Kung University (NCKU) for the Joint Research Scheme (JRS) project. Member schools are notified to allow teachers to freely submit applications. After the review, the matched list will be announced. Teachers can then conduct international research cooperation with overseas sister universities based on the matching results. In 2020, our school successfully matched 2 teachers with 5 research projects. 2. This forum provides an academic research platform, which is of significant help in enhancing our university's international research capacity. 3. It is suggested to expand the promotion of the JRS program in order to increase the willingness of our university's teachers to apply, thus enhancing our university's international research capacity.
Edu-Connect Southeast Asia Association, Kaohsiung	Through the association's collaboration with the Southern Taiwan University Alliance and the National University System of the Philippines, the Taiwan-Philippines Academic Networking Platform is jointly operated to share higher education resources and expertise between Taiwan and the Philippines. It facilitates educational exchanges between the Southern Taiwan society and universities in Southeast Asian countries, transforming university international cooperation into an international exchange industry and fostering a new force for upward advancement in the Southeast Asian region.



2.2.3 Sustainability-related Alliances and Projects

Sustainability Alliance Partnership

On the path of sustainable development, our university has always insisted on establishing profound partnerships with various sectors. These partnerships are aimed not only at promoting interaction between academia and industry but also at achieving sustainable development goals together. Currently, we have multiple long-term cooperative partnerships, summarized in the table below.

The list of sustainable-related alliances in which our university participates in

Sustainability Alliance Name	Collaboration Method
GLORIA SOUTH	Continuous industry-academia collaboration is the key to achieving sustainable development. GLORIA SOUTH brings together the industry-academic resources of 11 colleges and universities in the central and southern regions. The alliance schools collaborate to promote sustainable technology research and development, create industrial value, and achieve sustainable development goals at the social and economic levels. Our collaborative themes include green energy reduction, circular economy, and smart manufacturing. Through cross-school industry-academia collaboration and technology transfer, we apply these themes to the industry, making substantial contributions to sustainable development.
Passive Components Association	Furthermore, actively establishing long-term partnerships with private enterprises, signing up for the membership service of the Greater Southern Research Industrialization Platform, and advocating for collaboration to jointly explore innovative solutions to address the challenges of sustainable development. Through industry-academic collaboration, we will jointly research and develop green technologies to achieve resource conservation and circular utilization, promoting sustainable economic and social development.
Taiwan Alliance for Sustainable Supply (TASS)	Achieving a sustainable supply chain is a key factor in achieving sustainable development goals. Our initiative aims to promote knowledge sharing and resource integration among partners to achieve sustainability in the supply chain. Through collaboration with the Passive Components Industry Association and the Taiwan Alliance for Sustainable Supply, we are promoting the development of a green supply chain to enhance social and environmental responsibility within it.

Inter-School Sustainable USR Collaboration Mechanism

The university has signed memorandums of cooperation with five universities, including National Taitung University, National Pingtung University of Science and Technology, Chia Nan University of Pharmacy and Science, Fooyin University, and Cheng Shiu University, in 2022. By combining faculty, curriculum, and resources, the university aims to strengthen local connections, cultivate talent, share resources, and promote sustainable development. This collaboration also provides a teaching platform for the university's USR project team across the country.

Opportunities for the Balanced Development of Green Public Welfare and Business Interests: ESG Innovation and Sustainable Exchange Forum

ESG issues have emerged as a mainstream trend in national development. The Interdisciplinary Smart Finance and Innovation Development Center at our university has invited faculty members from the Commerce Development Research Institute to participate as speakers in this forum. They will share innovative perspectives on ESG with experts and scholars from industry, government, and academia, aiming to align with international standards and explore collaborative opportunities."



ESG Internal Audit Training Course

In the future, companies will adopt green finance integration, promote ESG sustainability issues, compile reports, and encourage individuals aiming to enhance their workplace capabilities in ESG. Our university's Interdisciplinary Smart Finance and Innovation Development Center will conduct foundational training, led by instructors with extensive experience in teaching and verifying CSR & ESG reports. They will offer insightful explanations and practical investigative exercises to ensure the best learning outcomes.



ESG Cooperation MOU Signing Ceremony

The Interdisciplinary Smart Finance and Innovation Development Center at our university is dedicated to aligning with the global trend of ESG sustainable development. It was established to champion local ESG development as part of our university's social responsibility, guide net-zero emissions policies, and bolster corporate social responsibility. In pursuit of our ESG mission, we have entered into an MOU with the ESG Sustainable Development Industry-Academia Collaboration Platform. This partnership involves collaboration with the international certification organization TÜV (Technischer Überwachungs-Verein) to collectively advance the industry's sustainable development goals. This cooperative agreement delineates our shared understanding and outlines our future endeavors.



ISO 14064-1 Greenhouse Gas Inventory Internal Verifier Training Course

Domestic enterprises must adhere to the ISO14064-1 greenhouse gas inventory standard to understand their carbon emissions. By conducting greenhouse gas inventories, they can identify emission sources and hotspots, and based on emission characteristics, develop reduction methods, strategies, and pathways to achieve goals. Additionally, regular reviews of the effectiveness of reduction methods can be conducted through greenhouse gas inventories, allowing for timely adjustments and modifications to greenhouse gas reduction approaches. In this context, our interdisciplinary Interdisciplinary Smart Finance and Innovation Development Center provides training courses aimed at equipping participants with the ability to identify and inventory greenhouse gas emission sources.



2.3 Workforce Diversity

2.3.1 Talent Acquisition and Retention

Salary adjustments for all personnel categories within this institution are conducted in accordance with the corresponding regulations and align with the Ministry of Labor's requirements. In the event that the Ministry of Labor announces alterations to the current year's minimum wage, these adjustments will be implemented accordingly. Proposed revisions are formulated by the institution's personnel office and are subject to approval by both the administrative council and the school fund management committee. This process ensures the protection of the rights and interests of all personnel categories within the institution.

The ratio of our school's employees' minimum wage to the statutory minimum wage.

Unit: New Taiwan Dollars

Personnel Type	Minimum wage	Ratio to Statutory Minimum Wage
Full-time faculty	60,480	240%
Project Researchers	60,684	240%
Regular Staff (Civil Servants)	31,450	125%
Technicians, Maintenance Workers, and Security Guards	26,390	105%
Contracted Employees	25,490	101%
Statutory Minimum Wage	25,250	-





Remuneration Policy

- I. The salaries and benefits of employees within our institution are provided under the provisions of the "Guidelines Governing the Payment of Remuneration to Military, Civil Servants and Teachers." In response to the requirements of academic development, our university has formulated the "Regulations on Payment of Remuneration for Teachers and Researchers Concurrently Serving in Non-Organizational Managerial Positions," in accordance with the "Regulations Regarding the Management and Supervision of School Funds at National Universities/Colleges." To advance academic affairs and elevate research standards, various departments may appoint teaching and research staff to simultaneously undertake non-permanent managerial roles. Individuals responsible for leadership, supervision, and business development may receive remuneration for their managerial positions from the self-generated income of the school fund.
- II. According to the salary payment standards for employees hired under our school's school funds, in the event of adjustments to the military and public servant benefits, proposals for revisions will be made by the Personnel Office to the school's administrative council and the School Fund Management Committee, depending on the self-raised funds situation of our school's school funds.



salary payment standards for employees hired under
our school's school funds

III. Ratio of Salary to Minimum Wage for School Staff:

(I) Technicians, Maintenance Workers, and Security Guard

1. Faculty, Technicians, Maintenance Workers, and Security Guards: According to the current salary regulations for civil servants and teachers, the minimum salary for teachers (lecturers) is NT\$60,480; the minimum salary for civil servants in the first appointment level is NT\$31,450; and the minimum salary for technicians, maintenance workers, and security guards is NT\$26,390. All of these amounts are higher than the basic wage of NT\$25,250 announced by the Ministry of Labor for 2022.
2. The ratio of the minimum salary to the minimum wage for teachers, staff, technicians, maintenance workers, and security guards is 240%, 125%, and 105%, respectively.

(II) Contracted Employees

The salaries of the staff employed by the school's fund (referred to as the school fund staff) are provided in accordance with the salary payment standards for the school fund staff. Furthermore, in accordance with the announcement issued by the Ministry of Labor on October 15, 2021, with reference number 1100143340, starting from January 1, 2022, the monthly basic salary will be adjusted to NT\$25,250. Therefore, the school has revised the minimum monthly salary for assistant staff A and assistant staff employed under contract to NT\$25,490, both of which are higher than the announced amount of NT\$25,250 by the Ministry of Labor (100% of the staff). Another minimum starting salary at our school is NT\$25,490, which represents 101% of the minimum wage.

IV. Retirement System: Our university adopts a defined contribution system for retirement funds. Faculty and staff within the establishment follow the regulations of the Public School Teachers Retirement and Severance Act and the Public School Teachers Personal Account Retirement and Severance Act. Civil servants follow the Civil Servants Retirement and Severance Act and the Civil Servants Personal Account Retirement and Severance Act. Staff members (assistants) of the university fund, project assistants, and other self-employed personnel subject to the Labor Standards Act follow the new regulations of the Labor Pension Act and the old regulations of the Labor Standards Act for retirement and severance care matters. In compliance with the regulations of the Labor Pension Act, our school will contribute 6% of the monthly salary as the monthly retirement pension to the individual retirement account at the Labor Insurance Bureau of the Ministry of Labor. Employees may voluntarily contribute an additional retirement pension within the range of 6% of their monthly salary, with adjustments to the contribution rate limited to twice a year.

V. The median ratio of the annual total compensation of the highest individual in our school in 2022 to the annual total compensation of other personnel is 2.83%.*

VI. The university does not provide severance pay for senior executives.

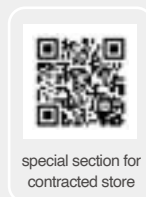
* The annual total compensation ratio is calculated based on the basic salary and excludes professional allowances, administrative allowances, project director fees, etc.

Benefits Policy

I. An annual special budget (sports activity fee) is allocated: NT\$2,000 for each current full-time faculty member (including project teachers) and staff members funded by the school.

II. Implemented various benefit measures and cultural activities, including organizing birthday celebrations for faculty and staff, distributing birthday vouchers, providing subsidies for cultural activities, and conducting annual lucky draw prizes.

(I) Contracted Stores: Continuously sign preferential consumption agreements with excellent vendors, expand the number and categories of contracted stores, and establish a special section for contracted store discounts on the Personnel Office's website.



(II) Childcare Services: Conduct an annual survey of employee needs based on their requirements and recommendations, negotiate and sign preferential contracts with childcare institutions.

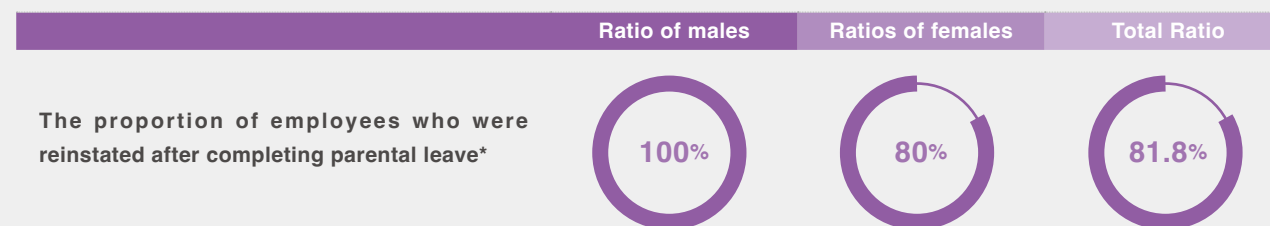
III. Insurance: Provides group insurance with preferential rates for public sector employees.

IV. Loans: Including emergency loans (providing loans for medical care, funeral expenses, disasters, childcare, and long-term care for different types of accidents), preferential housing loans (nest advantage loan), and preferential consumer loans (considerate loan).

V. Retirement Benefits: Retired public servants may enjoy preferential treatment by presenting their retirement certificate to visit government-managed scenic spots, and museums, or use recreational facilities. They are also invited to attend the annual school anniversary celebration and banquet.

Parental Leave Status at Our School

	Number of males (People)	Number of females (People)	Total (People)
Total number of employees on parental leave	1,079	1,029	2,107
Actual numbers of employees who used parental leave	1	21	22
The total number of employees who were reinstated after completing parental leave	1	17	18
The total number of employees who were reinstated after completing parental leave and remained employed for 12 months	0	12	12



* Calculation Method: The total number of employees reinstated after parental leave divided by the total number of employees eligible for reinstatement after parental leave.



2.3.2 Diverse and Equal Workplace

The university upholds its commitment to human rights, equality, and diversity in talent recruitment, regardless of gender, age, race, or other differences. We strive to create an inclusive work environment where everyone can fully unleash their potential and achieve their professional goals. In 2022, the percentage of indigenous faculty and staff at our university is 0.78%, while the percentage of individuals with disabilities is 3.05%.*

Statistics on Changes in the Number of Faculty and Staff at Our School

Type	Total Number of Personnel in 2022	Total Number of Personnel in 2021
Full-time faculty (Including project faculty, instructors, and teaching assistants, excluding those on leave without pay)	838	786
Part-time Faculty (0.2 FTE)	165	172
Subtotal	1,003	958
Regular Staff (including technicians, maintenance workers, and security guards)	272	292
University-endowed staff	462	460
Project-based employees	621	579
Project researchers	35	30
Part-time Assistant (0.2 FTE)	1,029	998
Subtotal	2,419	2,359
Total	3,422	3,317

* Method of Calculating Headcount: The number of personnel is calculated based on statistics from various personnel entry points. To ensure consistency in annual data, the statistical reference date is set as the reporting date for technical and vocational data (the reference date being October 15th of each year). However, project staff and part-time assistants are not required to report, so the statistical reference date is set as December 31, 2022. In addition, adjunct professors and adjunct assistants are calculated at 0.2 FTE.

Basis for the Employment of Full-time Teachers and Various Staff Members

- I. The term full-time faculty refers to teachers who are appointed by the "Acts Governing the Appointment of Educators," the "Regulations for the Appointment of Full-Time Faculty," the "Implementation Principles for Appointing Full-Time Faculty Members Outside the Staffing Complement at Junior Colleges and Institutions of Higher Education," and the "Guidelines for the Employment of Full-Time Instructional Staff Outside the Established Staffing Quota Using School Funds."
- II. The employment and quota control situation for diverse types of staff, including civil servants, technicians, maintenance workers, drivers, and security guards, is explained as follows:
 - (I) Civil servants: When personnel retire or leave, vacancies can be filled, and new positions can be created or adjusted to meet the needs of new business requirements. This can be done as long as there are vacancies within the staffing quota.
 - (II) Technicians and maintenance workers: According to Point 4 of the Operational Guidelines for the Management of Staff Quotas in Central Government Agencies and Schools, the filling of non-excessive vacancies for technical and maintenance staff in various government agencies and schools should be handled by transferring personnel from within the respective agencies or schools, or by reallocating personnel from other central government agencies or schools. Such vacancies should not be filled through new hires or by reallocating personnel from local government agencies or schools. Any non-technical or maintenance workers who have not been filled within 4 months from the date of vacancy will have their positions reduced directly by the Executive Yuan.
 - (III) Security Guards: According to Article 24 of the Central Government Agency Quota Management Regulations, the management regulations for the establishment of security guards in various government agencies, schools, and organizations stipulate that unless the environment is deemed special and approved by the Executive Yuan for continued employment, the use of commissioned private security services or alternative measures should be reviewed. The budgeted positions for existing security guards should be classified as vacant and not filled.
- III. School-based personnel and project-based employees refer to individuals employed by the school using school funds or designated projects to engage in relevant work. They are subject to the regulations outlined in the "Regulations for the Employment and Management of Staff Using School Funds" and the "Guidelines for the Management of Project Staff" and are considered non-staff personnel under the Labor Standards Act.



Basis for the Employment of Part-time Faculty and Part-time Assistants

- I. Part-time Faculty: Refers to faculty appointed following the "Act Governing the Appointment of Educators," the "Regulations for the Appointment of Part-Time Faculty Members in Colleges and Higher Educational Institutions," and the "Guidelines for the Appointment of Part-Time Faculty Members" of our school.
- II. The term part-time assistant refers to individuals who are employed according to the "Guidelines for Safeguarding the Labor Rights and Benefits of Part-Time Project Staff at National Kaohsiung University of Science and Technology." They are under the supervision and command of the university and receive compensation for their involvement in research, teaching, or administrative tasks on a part-time basis.

Total Number of Faculty and Staff and Gender Statistics at our School

	Number of males (people)	Ratio of males	Number of females (people)	Ratio of females	Total (people)
Full-time faculty	633	75.6%	205	24.4%	838
Part-time Faculty (0.2 FTE)	108	65.3%	57	34.7%	165
Subtotal	741	-	262	-	1,003
Regular staff	107	39.3%	165	60.7%	272
University-endowed staff	114	24.7%	348	75.3%	462
Project-based employees	248	39.9%	373	60.1%	621
Project researchers	27	77.1%	8	22.9%	35
Research assistant (0.2 FTE)	553	53.7%	476	46.3%	1,029
Subtotal	1,049	-	1,370	-	2,419
Total	1,790	-	1,632	-	3,422

Total Number of Faculty and Staff and Age Statistics at our School

	Number of people under 30	Percentage	Number of people aged 31-50	Percentage	Number of people over 51	Percentage	Total
Full-time faculty	0	0%	274	32.7%	564	67.3%	838
Part-time Faculty (0.2 FTE)	3	1.6%	70	42.5%	92	55.9%	165
Subtotal	3	-	344	-	656	-	1,003
Regular staff	7	2.6%	120	44.1%	145	53.3%	272
University-endowed staff	86	18.6%	309	66.9%	67	14.5%	462
Project-based employees	246	39.6%	329	53%	46	7.4%	621
Project researchers	4	11.4%	23	65.7%	8	22.9%	35
Research assistant (0.2 FTE)	960	93.3%	53	5.2%	16	1.5%	1,029
Subtotal	1,303	-	834	-	282	-	2,419
Total	1,306	-	1,178	-	938	-	3,422



Regional Statistics of Faculty and Staff at Our School

	Citizen	Percentage	Foreigners	Percentage	Total
Full-time faculty	828	98.8%	10	1.2%	838
Part-time Faculty (0.2 FTE)	162	98.1%	3	1.9%	165
Subtotal	990	-	13	-	1,003
Regular staff	272	100%	0	0%	272
University-endowed staff	462	100%	0	0%	462
Project-based employees	612	98.6%	9	1.4%	621
Project researchers	29	82.9%	6	17.1%	35
Research assistant (0.2 FTE)	1,000	97.2%	29	2.8%	1,029
Subtotal	2,375	-	44	-	2,419
Total	3,365	-	57	-	3,422

* Full-time employees, both internal and external, at the university, work 40 hours per week. Part-time teachers are defined as the total number of teaching hours per week in a semester divided by the total number of part-time teachers. Part-time assistants and teaching assistants are calculated as the total monthly hours divided by the total number of personnel, then divided by 4.

The new hire and turnover rate of faculty and staff at our school in 2022 (excluding part-time assistants)

Categories of Faculty and Staff	Total Number of People at the End of the Year	New Employees (Rate)	The Number of Resignations (Rate)
Teachers	Male	633 people	17 people (2.7%)
	Women	205 people	6 people (2.9%)
	Under 30	0 people	0 people (0%)
	31-50 years old	274 people	23 people (8.4%)
	Over 51	564 people	0 people (0%)
	Total	838 people	23 people (2.74%)
Staff	Male	496 people	101 people (20.4%)
	Women	894 people	148 people (16.6%)
	Under 30	343 people	126 people (36.7%)
	31-50 years old	781 people	107 people (13.7%)
	Over 51	266 people	16 people (6.0%)
	Total	1,390 people	249 people (17.9%)

Weekly Working Hours Statistics of Faculty and Staff at Our School *

Type	Weekly Working Hours (hours)
Full-time faculty (Including project teachers, instructors, and teaching assistants, excluding those on leave without pay)	40 hr
Part-time faculty	4.6 hr
Regular staff	40 hr
University-endowed staff	40 hr
Project-based employees	40 hr
Part-time assistants	14 hr
Part-time teaching assistants	9 hr



Contracted Deployment of Employees

I. In 2022, our school utilized 139 contracted dispatched employees.

The total number of contracted dispatched employees our school used in 2022

Cleaning	81 people
Computer Information Equipment Maintenance	6 people
Security	45 people
Plants Maintenance	1 people
Engineering Technology, Construction, and Electro-Mechanical Maintenance	2 people
Other (Garbage Collection and Air Conditioning Maintenance)	4 people
Total	139 people

II. Our school's use of contracted labor follows the "Reference Principles for the Use of Labor Contracting by Government Agencies (Institutions)" established by the Ministry of Labor and the "Guidelines for Promoting Business Entrustment to Private Entities at National Kaohsiung University of Science and Technology." We adhere to these regulations to ensure the reasonable utilization and protection of the labor rights of contracted dispatched personnel. It is explicitly stated that the contracted labor personnel shall not be directly supervised or managed in their work, but rather their work should be evaluated based on contractual requirements related to performance or quality. The specific scope of the contracted services, as well as the criteria for acceptance, should be clearly defined in the labor service contract.

III. The following work items are as follow:

Maintenance of departmental (or divisional) computers, servers, and peripheral equipment.	Operation and maintenance of campus sewage treatment plants.	Campus waste collection and resource recycling classification.
Campus cleaning and maintenance.	Campus planting maintenance.	Campus security and guard duty.
Maintenance of campus computer network.	Night security duty at the campus student dormitories.	Campus air conditioning equipment maintenance and servicing.

IV. The Ministry of Education promotes the process of supervising and evaluating commissioned tasks conducted by private entities as follows:

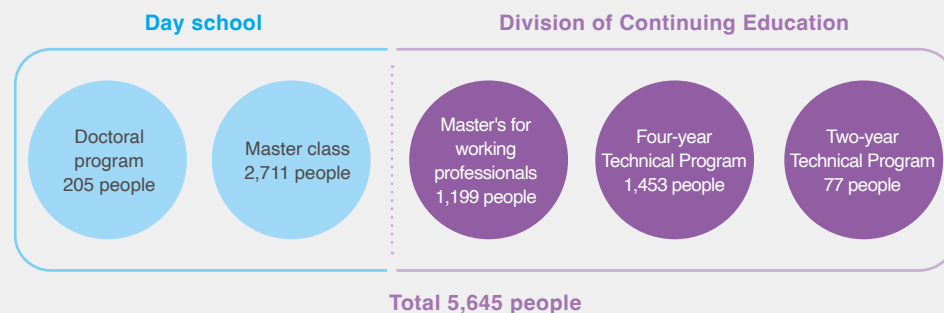
step. 01	step. 02	step. 03
According to Article 6, Section 1 of the Guidelines for the Supervision and Evaluation of Ministry of Education's Commissioned Tasks Entrusted to Private Entities, the Ministry of Education and its affiliated agencies, institutions, and schools should complete the self-assessment portion of the "Effectiveness Evaluation Form for Ministry of Education and its Affiliated Agencies, Institutions, and Schools Entrusting Tasks to Private Entities" by October 20th of each year and submit it for further review by the relevant groups.	According to the previous regulations, the Evaluation of Ministry of Education's Commissioned Tasks Entrusted to Private Entities and the Annual Outsourcing Types and Number of Cases are to be filled out following the prescribed format, serving as the basis for scoring each item in the evaluation. To also consider the feedback from both the labor and employer sides, if the outsourced vendors have any suggestions, please fill out the feedback form. These suggestions will not be included in the evaluation scoring.	To report the annual performance evaluation self-assessment, relevant units were notified by email in late August to fill out the achievement data according to the format. After the personnel department consolidates the data, it is planned to submit it to the project team for review in early October.

V. It is proposed to send the self-assessment results to the Ministry of Education for secondary review by email before October 20th each year.

2.3.3 Diverse students

In 2022, the total number of students enrolled in our university is 28,443, of which 63.9% are male and 36.1% are female. Compared with the gender ratio of 80.2% male and 19.8% female in engineering, manufacturing, and construction-related departments and programs in colleges and universities as reported by the Department of Statistics in 2022, our university has a smaller gender disparity among enrolled students.

Statistics of the number of individual applicants for admission in the 2021/2022 academic year at our school*



In recent years, our university has been committed to promoting internationalization and enhancing our international reputation. The results are reflected in the annual growth of the number of international students (including foreign students, overseas Chinese students, Hong Kong, and Macau students, as well as mainland Chinese students). In 2022, there were a total of 704 international students. In addition to continuously enhancing resources for international student counseling, the university has established a buddy system to assist international students in adapting to life in Taiwan and promoting cultural integration between international and local students. Every semester, willing students are recruited to help international students with their daily life and academic issues, enabling them to quickly adapt to their new environment. Various activities are also organized periodically.

Total Student Enrollment and Gender Statistics

Type of Students	Number of Males (Ratio)	Number of Females (Ratio)	Total
Doctoral program	444 people (74.2%)	154 people (25.8%)	598 people
Master class	1,753 people (67.0%)	865 people (33.0%)	2,618 people
Day school			
Four-year Technical Program	10,826 people (62.0%)	6,643 people (38.0%)	17,469 people
Two-year Technical Program	279 people (64.9%)	151 people (35.1%)	430 people
Five-year Junior College	703 people (81.1%)	164 people (18.9%)	867 people
Division of Continuing Education			
Four-year Technical Program	2,541 people (67.7%)	1,210 people (32.3%)	3,751 people
Two-year Technical Program	56 people (53.3%)	49 people (46.7%)	105 people
Master's Program	1,261 people (62.7%)	749 people (37.3%)	2,010 people
Institute of Continuing Education			
Two-year Technical Program	320 people (53.8%)	275 people (46.2%)	595 people
Total	18,183 people (63.9%)	10,260 people (36.1%)	28,443 people

* The statistics of the number of applicants for admission do not include those participating in joint registration and distribution.

Statistical Breakdown of Student Diversity in 2022



Student-to-teacher ratio

According to the "Criteria for the Scale of Total Volume Development and Resource Requirements," the student-to-faculty ratio at the University of Science and Technology should be below 27. This calculation is based on the total weighted student count (including the count of students in the Institute of Continuing Education) divided by the total number of full-time and part-time faculty members at the university. Additionally, the student-to-faculty ratio for the day program should be below 23, calculated by dividing the total weighted student count for the day program by the total number of full-time and part-time faculty members at the university. The results of the calculations for the 2021/2022 academic year at our school are all in compliance with the standards, as depicted in the table below.

Student-to-teacher Ratio at Our School for the 2021/2022 Academic Year

First Semester		Second Semester	
			
Day School Faculty-Student Ratio	Student-to-Teacher Ratio for the Entire School	Day School Faculty-Student Ratio	Student-to-Teacher Ratio for the Entire School
21.54	25.99	21.13	25.43

The average total credits required for graduation per student in the 2021/2022 academic year.*

Education System	Average total credits	Education System	Average total credits
Five-year Junior College	224	Doctoral program	33
Two-year Technical Program (Day)	72	Master class	37
Two-year Technical Program (Continuous education)	72	Master's for working professionals	36
Four-year Technical Program (Day)	130	Institute of Continuing Education	72
Four-year Technical Program (Continuous)	128		

* Based on the statistics from Table 3-1 of the Technical and Vocational Database for the 2021/2022 academic year regarding the graduation credit structure of incoming freshmen, calculations should be rounded down to the nearest whole number.



2.4 Gender Equality Issues

2.4.1 Handling of Gender Equality Incidents

To promote gender equality, our university has established the Gender Equality Committee to integrate internal resources and promote gender equality education. The goal is to enhance overall awareness of gender equality on campus. The responsibilities of the Gender Equality Education Committee are depicted in the diagram.

The university has established a Gender Equality Section on its homepage, providing resources for gender-related education and a channel for addressing gender equality issues on campus. Through these measures, the university aims to promote a gender-friendly environment. In the case of remedies for gender equality incidents, the Gender Equality Section provides forms and related procedures such as the "Application for Investigation of Campus Sexual Assault or Harassment" and the "Application for Appeal Regarding Campus Sexual Assault, Sexual Harassment, or Sexual Bullying Incidents," for use by parties seeking relief. The prevention of such incidents is undoubtedly superior to subsequent handling and assistance. Therefore, our school conducts education and training to prevent and address sexual harassment, distributes and requires all staff to sign a written declaration prohibiting workplace sexual harassment, and strives to create a gender-friendly and safe work environment.



Gender Equality
Section

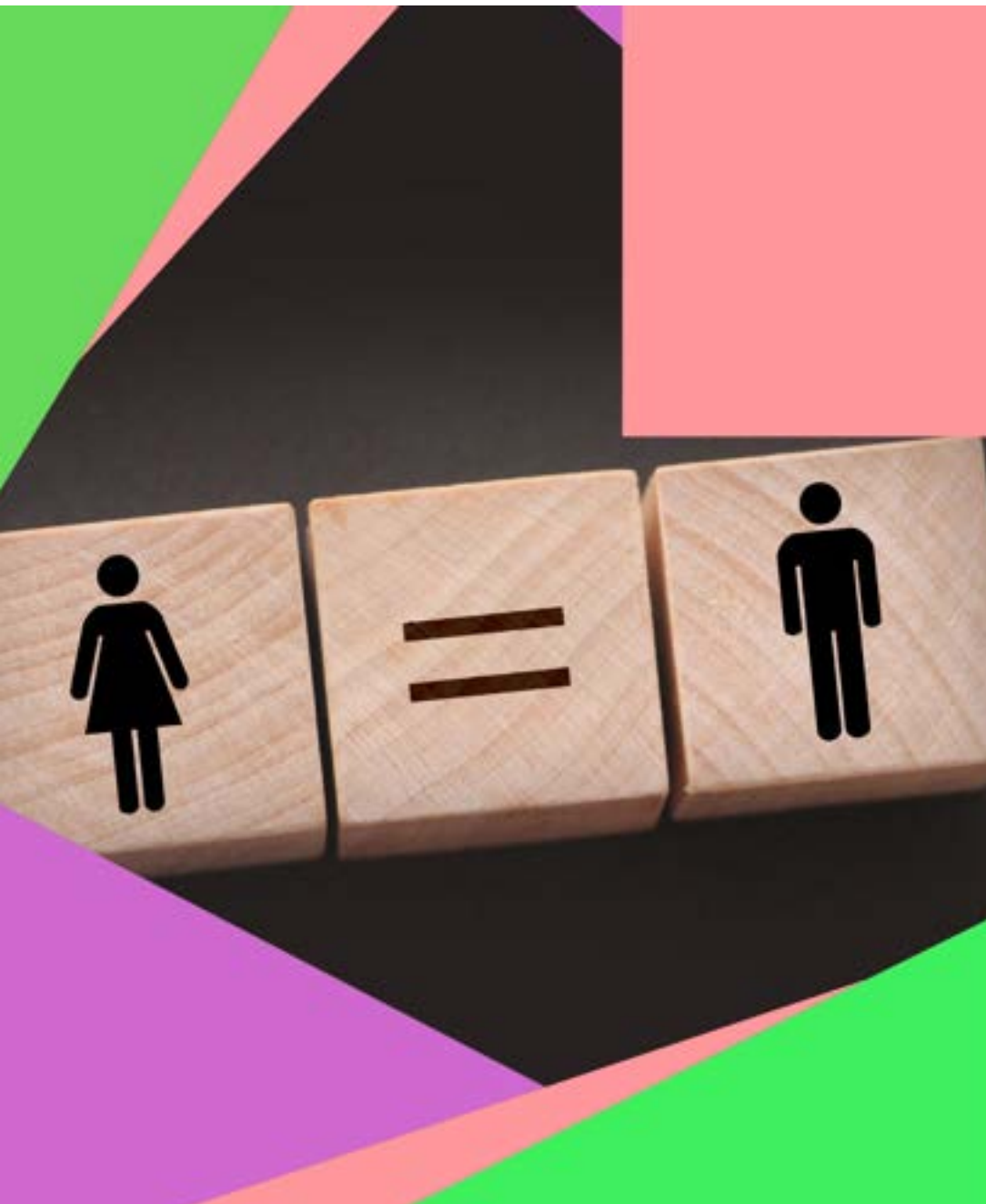
Responsibilities of the Gender Equality Education Committee

Gender Equality Education Committee

- Integrate relevant resources from various departments of the school, formulate a plan for implementing gender equality education, and implement and review its execution results.
- Plan or organize activities related to gender equality education.
- Develop and promote curriculum, teaching, and evaluation for gender equality education.
- Draft regulations for implementing gender equality education and preventing campus sexual assault, sexual harassment, or sexual bullying, and establish mechanisms. Coordinate and integrate relevant resources.
- Investigate and handle cases related to the Gender Equity Education Act.
- Plan and establish a safe campus environment for gender equality.
- Other matters regarding gender equality education.

Incident Handling Procedures

- step. 1 Applicants and whistleblowers shall submit their requests for investigation or complaints in writing.
- step. 2 Upon receiving the application, NKUST will transfer the case to the NKUST Gender Equality Committee for investigation within three working days.
- step. 3 NKUST's Gender Equality Committee will notify the applicants or informants of the investigation or complaint results in writing within 20 days from the date of receiving the application or complaint at the receiving unit.
- step. 4 Upon receiving the approval of the Gender Equality Committee, the investigation should be completed within two months. If necessary, an extension may be granted. After concluding the Gender Equality Committee's investigation, a report and recommendations should be submitted to the Student Disciplinary Committee, the Faculty Evaluation Committee, the Personnel Office, or the Office of General Affairs regarding the investigation process and decisions.
- step. 5 When the Gender Equality Committee notifies the applicant and the involved party in writing of the processing results, they should also provide an investigation report and inform them of the deadline for reapplication and the responsible department.
- step. 6 Applicants or involved parties who are dissatisfied with the outcome of the Gender Equality Committee's handling may submit a written appeal to the Office of the Secretariat of this institution within 30 days from the day following the receipt of the written notice, providing apparent reasons for their appeal.
- step. 7 Upon receiving the application, the Secretariat of our university shall promptly form a review committee and make a decision with supporting reasons within 30 days. The applicant shall be notified of the result in writing.
- step. 8 If the applicant or the individual involved is dissatisfied with the result of the application, they may file an appeal with the Student Grievance Review Committee, Teacher's Grievance Review Committee, or the Staff Appeals Committee within 30 days from the day following the receipt of the written notice.



2.4.2 Gender Equality Issues and Advocacy Activities

To promote gender equality issues, NKUST continues to offer gender-related general education courses and expand micro-credit courses and gender-related special topic lectures. We organize annual women's film festivals and exhibitions featuring films addressing gender-related issues. Speakers are invited to discuss gender equality issues and visual aesthetics from diverse perspectives of women across various countries.

In addition, gender mainstreaming seminars will be held at each campus, targeting the faculty and staff of NKUST. Based on the gender statistics of our university, we will assess and allocate budgets for various campus policies, plans, courses, and hardware and software equipment. The goal is to create harmonious gender relationships and foster mutual respect and awareness of gender equality among faculty, staff, and students. This initiative aims to deepen their understanding of diverse gender relationships, gender equality, love, and marriage, and eliminate stereotypes.

List of Routine Gender Equality Promotion Activities

- 1 Conduct gender equality and sexual harassment awareness campaigns during the annual freshman orientation ceremony.
- 2 During the student onshore internship orientation sessions organized by each department, the importance of gender equality was emphasized.
- 3 Incorporate gender equality education advocacy during club leader training.
- 4 Gender equality education promotion was conducted during the department's weekly meeting.
- 5 Conduct gender equality education and advocacy for dormitory leaders and residents.
- 6 Promote gender equality awareness during the administrative unit's briefing session for the entire student body regarding offshore internships.



2.5 Grievance Mechanism

2.5.1 Staff Grievance

Following the principle of providing rights to seek remedies, the university has established a teacher grievance system, enabling teachers to lodge written complaints within thirty days from the day after they become aware of any university measures that they deem illegal or improper, and that have caused harm to their rights and interests. Representatives from each college of our university are appointed to serve as members of the Teacher's Grievance Review Committee. Additionally, two external members with legal expertise are hired. Within three months, the committee will convene meetings to deliberate on the grounds for appeals and make resolutions, aiming to establish a systematic and fair appeals mechanism to protect the basic rights of teachers. Relevant regulations can be referred to in the "Organization and Review Guidelines for the Teacher's Grievance Review Committee of National Kaohsiung University of Science and Technology."

Regarding the faculty and staff, under the "Organization and Review Guidelines for the Faculty and Staff Grievance Review Committee of National Kaohsiung University of Science and Technology," a staff grievance review committee has been established. Staff members who believe that the management measures or related working conditions implemented by the university are illegal or inappropriate, resulting in an impact on their rights and interests, may file a complaint with the staff grievance review committee.

Job Dispute Resolution

The university has also established the "Preventive Plan for Preventing Unlawful Incidents in the Performance of Duties at National Kaohsiung University of Science and Technology," which is accessible to all campus employees. If an employee experiences physical or mental harm due to unlawful acts committed by superiors, colleagues, service recipients, or other third parties in the workplace while performing their job duties, they are encouraged to report it. Upon receiving the notification, our school requested the president to appoint a person as the convener. The convener will gather representatives from the personnel office, environmental health and safety center, relevant stakeholders, the Office of Student Affairs (when the stakeholders are students), and Occupational Health Service medical personnel to establish the Workplace Misconduct Incident Handling Team. If necessary, relevant professionals may be hired to assist.

2.5.2 Student Grievance

To safeguard the learning, living, and educational rights and interests of students, the Student Grievance Procedures at the National Kaohsiung University of Science and Technology have been established. Following this procedure, a "Student Grievance Review Committee" is formed, consisting of students, teachers, and members of the public known for their fairness. The committee is responsible for handling complaints filed by students, student associations, and other relevant student self-governing organizations.



Organization and Review
Guidelines for the Teacher's
Grievance Review Committee of
National Kaohsiung University of
Science and Technology.



Organization and Review
Guidelines for the Faculty and Staff
Grievance Review Committee of
National Kaohsiung University of
Science and Technology.



Preventive Plan for Preventing
Unlawful Incidents in the
Performance of Duties at National
Kaohsiung University of Science
and Technology



Student Grievance Procedures at
the National Kaohsiung University
of Science and Technology

2.5.3 Bullying Issues

Since campus bullying incidents constitute serious deviant behavior among students and can have a serious impact on the physical and mental well-being of both the parties involved and bystanders, to prevent campus bullying incidents establish effective prevention mechanisms, and improve the handling of related issues, we have formulated the "Implementation Measures for Preventing Campus Bullying." The responsibilities of our school's Campus Bullying Response Team are outlined in the diagram below.

The university has established a Campus Bullying Prevention Zone on its homepage, providing resources for campus bullying-related education and a channel for addressing campus bullying issues on campus. Through these measures, the university aims to promote a friendly campus environment. The Campus Bullying Prevention Zone provides forms such as the "Campus Bullying Incident Investigation Application Form" and the "Campus Bullying Incident Appeal Application Form" as well as related regulations, for use by parties seeking remedies. Preventing campus bullying is undoubtedly more effective than dealing with and assisting after the fact. Therefore, our school also conducts education and training sessions as well as seminars on preventing campus bullying to foster a friendly learning environment on campus.



Campus Bullying Prevention Zone

Responsibilities of the Campus Bullying Response Team

Consolidate relevant resources from various departments of the school, formulate the Implementation Measures for Preventing Campus Bullying, implement them, and review their implementation results.

Plan or organize educational activities related to preventing campus bullying.

Develop and promote education curricula, teaching methods, and assessment for preventing campus bullying.

Developing regulations for preventing campus bullying and implementing anti-bullying education, establishing mechanisms, and coordinating and integrating relevant resources.

Investigate and handle cases related to campus bullying.

Plan and establish a safe campus environment with zero tolerance for bullying.

Other matters related to preventing campus bullying education.





Process for Preventing and Addressing Campus Bullying Incidents

- step. 1 Applicants and whistleblowers shall submit their requests for investigation or complaints in writing.
- step. 2 Upon receiving a case application, our school will transfer the case to the Campus Bullying Prevention Response Team for investigation and handling within 3 working days.
- step. 3 NKUST's Campus Bullying Prevention Response Team will notify the applicants or informants of the investigation or complaint results in writing within 20 days from the date of receiving the application or complaint at the receiving unit.
- step. 4 In response to the Campus Bullying Prevention Response Team, a three-person investigation team should be established to conduct the investigation, which should be completed within two months and may be extended if necessary. After concluding the Campus Bullying Prevention Response Team's investigation, a report and recommendations should be submitted to the Student Disciplinary Committee, the Faculty Evaluation Committee, the Personnel Office, or the Office of General Affairs regarding the investigation process and decisions.
- step. 5 When the Campus Bullying Prevention Response Team notifies the applicant and the involved party in writing of the processing results, they should also provide an investigation report and inform them of the deadline for reapplication and the responsible department.
- step. 6 If an applicant or involved party is dissatisfied with the handling results of the Campus Bullying Prevention Response Team, they may, within 20 days of receiving written notification, submit a written appeal with reasons to the Office of Student Affairs, Student Services Division of our school.
- step. 7 Upon receiving an appeal application, the Office of Student Affairs, Student Services Division of our school shall immediately form an appeal review panel and decide with reasons within thirty days, notifying the appellant of the appeal result in writing.
- step. 8 If the parties involved are dissatisfied with the school's decision on the appeal of a campus bullying incident, or if they are dissatisfied with the school's disciplinary action regarding a campus bullying incident, they may file a grievance under the relevant provisions of the Teacher's Act and the school's student grievance procedures, or seek other administrative remedies as provided by the relevant regulations.

Campus Bullying Prevention Issues and Advocacy Activities

To promote awareness of the issues related to preventing campus bullying, our school continues to conduct anti-bullying advocacy and educational activities, as well as organize special lectures and workshops, to enhance the knowledge and capabilities of our entire school's faculty and students in preventing campus bullying.

List of Anti-Bullying Advocacy Activities

- 1 Conduct campus bullying prevention awareness campaigns during the annual freshman orientation ceremony.
- 2 Each department holds student on-site internship briefing sessions to promote awareness of the relevant regulations for preventing campus bullying.
- 3 During the training for club leaders, incorporate education and advocacy for preventing campus bullying.
- 4 Conduct campus bullying prevention education advocacy during the departmental weekly meetings.
- 5 Conduct campus bullying prevention education and advocacy for dormitory administrators and residents.
- 6 When the administrative unit holds school-wide student maritime internship briefing sessions, it promotes the relevant regulations for preventing campus bullying.

2.6 Campus safety

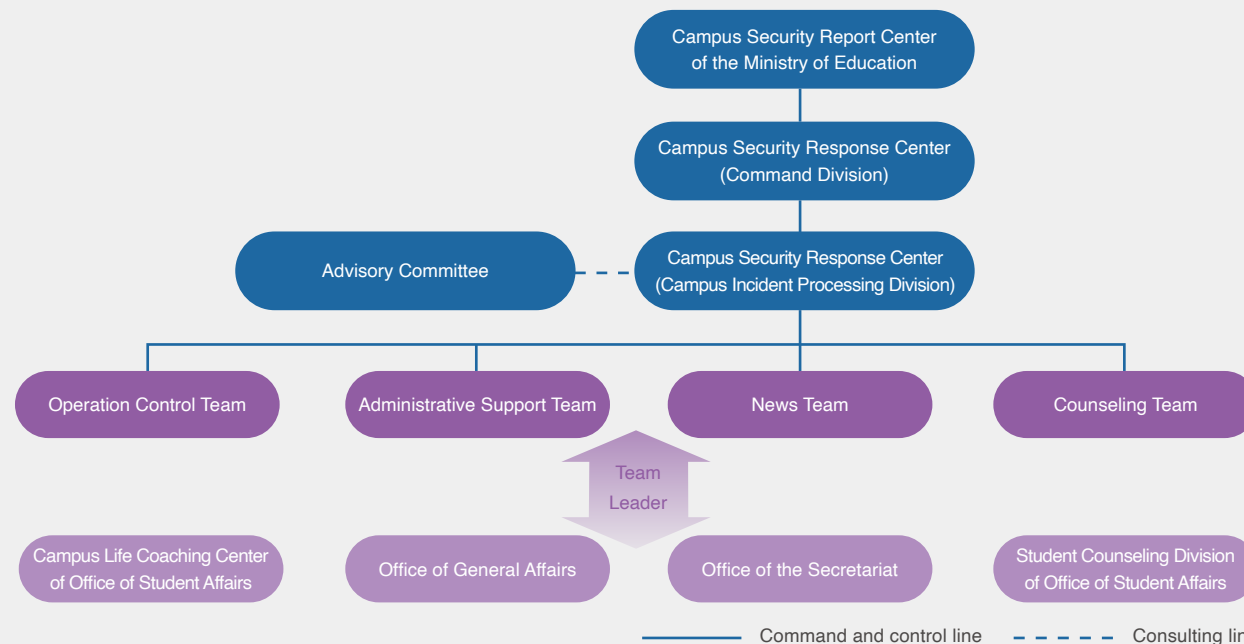
In order to ensure a high-quality learning environment for students and enable them to focus on their studies without external disturbances, our school aims to achieve safety goals related to personal, operational, environmental, and asset safety. We are committed to effectively preventing special incidents and accidents through notification, prevention, and appropriate handling, ensuring the efficient operation of campus security mechanisms. Additionally, we collaborate with educational, law enforcement, and social resources to establish a Campus Security Management and Disaster Prevention and Rescue Implementation Plan. This plan is designed to safeguard the safety of our faculty, staff, students, teaching facilities, buildings, and vessels, as well as to uphold the reputation of our school. We conduct disaster reduction, preparedness, response, and recovery efforts to effectively minimize campus disasters, strengthen campus security mechanisms, and ensure the safety of our teachers and students.



Campus Security
Management and Disaster
Prevention and Rescue

In the event of a campus security incident, a "Campus Safety Center" will be established based on the severity and impact of the security situation. The responsibilities of each department will be defined as implementing a campus security management mechanism, handle accidents, and providing follow-up assistance to prevent various campus security emergencies and avoid any resulting consequences. This ensures the safety of faculty, staff, and students and maintains the reputation of the school. The organizational structure of our Campus Safety Campus is as follows:

The organizational structure of our Campus Safety Campus



2.7 Occupational Safety and Health

The campus is not only a place for learning but also an important environment where all faculty and staff spend extended hours working daily. To ensure the safety and health of all employees, our university has established the Environmental Protection and Occupational Health and Safety Committee. This committee promotes, formulates, and plans the Occupational Safety and Health Management Plan. It delineates responsibilities for each unit and implements various occupational safety and health projects within specified timeframes. Furthermore, Occupational Safety and Health Standards have been established to regulate faculty and compliance with safety operation guidelines provided by workplace representatives at all levels. When necessary, they are required to participate in safety and health education and training organized or assigned by the school.

In 2022, there were no incidents of temporary total disability, including commuting accidents, and no cases of occupational diseases reported. The total working hours for the year amounted to 7,025,165 hours. According to the disability injury statistics indicators of the Ministry of Labor, the frequency rate (FR) of disability injuries per million working hours was 0.00, and the severity rate (SR) of disability injuries per million working hours was 0.00. The occupational disease rate (ODR) was 0.00. These statistics highlight that our work environment, equipment, and adherence to regulations collectively foster a safe occupational field for our colleagues.

Statistics on Occupational Injuries and Severe Occupational Injuries at NKUST in 2022.

Item	All Employees
Number of deaths caused by occupational injuries	0 cases
Death rate caused by occupational injuries	0 %
Number of severe occupational injuries (excluding fatalities)	0 cases
Ratio of severe occupational injuries (excluding fatalities)	0 %
The number of recordable occupational injuries	0 cases
The ratio of recordable occupational injuries	0 %



Environmental
Protection and
Occupational Health
and Safety Committee



Occupational
Safety and Health
Management
Plan



Occupational Safety
and Health Standards

2.8 Food Safety and Health

2.8.1 Food Safety Sustainable Food and Beverage

The provision of on-campus catering services at our school is outsourced to external vendors. While these vendors are responsible for procuring the necessary ingredients for their operations, they exclusively use locally sourced Taiwanese produce and meat products. Regarding the reduction of food waste, consumers can also request that vendors reduce the predetermined total amount of meals when making purchases. By consuming an appropriate amount of food and practicing moderate consumption, consumers can reduce the amount of food waste and develop a habit of not wasting food.

Additionally, the self-service catering operators at our school offer vegetarian or vegetable-based meals, which can help reduce the carbon emissions generated during animal farming. There are a total of 10 restaurants on campus, including the First Campus Chinese Restaurant, Food Court, Dormitory Restaurant, 6th Floor Restaurant at the Library, Coffee Bar at the College of Electrical and Computer Engineering, Food Court at the Nanzih Campus, Yanchao Campus Restaurant, Cijin Campus Restaurant, Jiangong Campus Restaurant, and Coffee Bar. Each restaurant's self-service stalls offer vegetarian or vegetable-based meal choices. However, 2 coffee bars do not provide vegetarian options. Based on this, the proportion of vegetarian-friendly restaurants on our campus is calculated to be 80%.



Food Safety Management

To enhance the quality of NKUST's cafeteria food service and maintain a safe dining environment on campus, our school actively implements a food safety management system. This is achieved through the coordinated efforts of the Office of Student Affairs, General Administration Division, and the Office of General Affairs, each with their respective responsibilities. Guided by four major management principles, we have established a mechanism for autonomous management and food safety testing to ensure effective food safety management and safeguard the food security of our students and faculty. The role of the nutritionist from the Health and Hygiene Section of our school's Office of Student Affairs is to serve as the food hygiene supervisor. They implement a supervision program during the operating hours of each cafeteria, requiring restaurant operators to cooperate with inspections according to relevant regulations. Operators are responsible for implementing ingredient inspection management and independently checking the quality of edible oil. They also autonomously submit or inspect the finished products and ice beverages supplied by operators. Supervisors conduct weekly inspections of the restaurant at least once, and any deficiencies found are required to be addressed by the operators within a specified timeframe. Records of the inspections are made and archived for future reference. Furthermore, in accordance with the ongoing efforts of the Ministry of Education to promote the Campus Food Ingredient Registration Platform, all food and beverage operators at our university are required to register relevant information about campus food ingredients on the platform during their operating hours.



▲ Ministry of Education Campus Food Ingredient Registration Platform



Campus Food
Ingredient Registration
Platform



Campus Plastic Reduction Policy

Our school has included provisions to reduce plastic waste in all outsourced operating contracts. The regulations on tableware restrict vendors from using plastic and polystyrene utensils, including cups, bowls, plates, dishes, food containers, and plastic trays used for serving food. Whether for dine-in or take-out, the provision of plastic (including polystyrene) disposable utensils is not allowed. However, disposable chopsticks and spoons for take-out are not subject to this restriction. Any changes will be made in accordance with government regulations. When operating companies violate regulations, they will be fined a penalty of NT\$1,200 to NT\$6,000 in accordance with Article 51 of the Waste Disposal Act, and the responsibility for payment lies with the companies.



▲ Encourage restaurants to reduce disposable items and prohibit the use of disposable tableware

Quality Testing for Drinking Water

NKUST has installed water dispensers on campus for the use of faculty, students, and visitors. In order to prevent waterborne diseases, the school follows regulations such as the "Regulations for the Use and Maintenance of Continuous Water Supply Equipment for Drinking Water" and commissions external professional vendors to conduct quarterly inspections of the water dispensers. Additionally, the Environmental Protection Bureau of the Kaohsiung City Government periodically sends its personnel to the school to sample the water quality of the dispensers. Through internal and external inspections, the school ensures that the drinking water on campus meets water quality standards. If any dispenser is found to have unacceptable levels of *Escherichia coli*, the maintenance vendor will be requested to strengthen maintenance and improvement. Relevant water quality testing data can be found on the website of our school's Environmental, Occupational Safety and Health Center. All testing reports comply with regulatory requirements.



our school's Environmental,
Occupational Safety and
Health Center

▲ The school commissioned a professional company to conduct water quality testing (left), and the Environmental Protection Bureau of Kaohsiung City Government sent its personnel to conduct sampling at the school (right)

2.8.2 Health Promotion

The school has established the Guidelines for the Implementation of Physical and Health Examinations, which include conducting physical examinations for new employees and regular health check-ups for current employees. In addition, special health examinations are arranged for those engaged in hazardous health-related work, along with occupational environmental monitoring and specific health check-ups. Hire occupational medicine specialists who rotate on a monthly basis to each campus to provide on-site health services, offering guidance on improving the health examination results for faculty and staff to enhance the health management of our school.



Guidelines for the
Implementation of
Physical and Health
Examinations

Campus Health Consultation

The school is equipped with high-quality health facilities, such as body composition analyzers, fully automated height and weight scales, and blood pressure monitors, for self-testing. Nurses provide health consultations based on the test results. In order to provide convenient medical services and healthcare consultations for the faculty, staff, and students of our university, we have signed contracts with nearby medical institutions. These contracts cover various departments, including internal medicine, surgery, obstetrics and gynecology, family medicine, otolaryngology, ophthalmology, dentistry, psychiatry medicine, and traditional Chinese medicine. In total, there are 38 medical institutions (3 hospitals and 35 clinics).

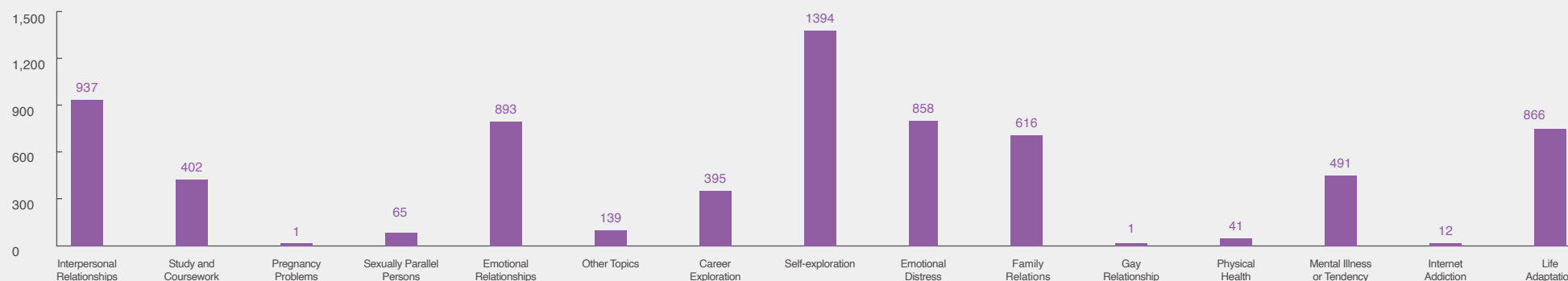
Campus Counseling and Guidance

As society increasingly emphasizes speed and efficiency, the pressure and anxiety brought about by high levels of uncertainty have spread among university students. Coupled with the diverse and vibrant nature of university life, this has also affected students' daily routines and dietary habits. How to help students maintain a healthy body and mind during their studies has become a topic of concern for schools. A total of 7,119 student counseling sessions were conducted in the 2022, an increase of 1.04 times compared to 2021. The types of issues discussed in student psychological counseling are shown in the following chart, with self-exploration, interpersonal relationships, and emotional relationships being the most common concerns.



2022 Annual Statistics of Student Mental Health Issues

(Unit: Number of Individuals)



The Counseling Group within the Office of Student Affairs consistently offers DIY mood examinations and monthly counseling newsletters. In the realm of psychological counseling, apart from establishing an appointment system, we have obtained approval from the appropriate authority to conduct online counseling. This allows students to access relevant resources whenever they need them. All of these initiatives aim to assist students in establishing a conducive learning environment and to promote wellness and well-being on campus. In addition, the school has commissioned a counseling center to offer counseling services to faculty and staff, providing a subsidy of 3 hours per person per year. This demonstrates the consideration given to the mental and physical well-being of faculty, staff, and students.



▲ Monthly Counseling Newsletter



In 2022, the Education Ministry's subsidy-supported "Promotion of Campus Culture in Life Education and SPROUT Project" was coordinated by the Counseling Group in the Office of Student Affairs, in collaboration with the Discipline Section, Service Learning, Extracurricular Activities, and Housing Service Sections. Through diverse educational approaches, this project aims to engage students, teachers, and staff in exploring their individual values, accumulating life skills, and pursuing phase-based life meanings. Specific content details may follow

- I. "Uniquely Poisonous - Finding Nemo" Winter and Summer Camp: Spreading light and warmth by visiting rural elementary and secondary schools or engaging in community service.
- II. "Leadership Intelligence Seminar": Cultivating student leaders through engagement in campus service and life education practices.
- III. Service Education Leadership Training Camp.
- IV. Mental Health Gatekeeper Training.
- V. Implement a series of promotional education, etc.



The university has 38 contracted medical institutions, covering internal medicine, surgery, obstetrics and gynecology, ophthalmology, dentistry, traditional Chinese medicine, and more, providing comprehensive health services for faculty and students.

2.9 Information Security

To strengthen information security management and ensure the confidentiality, integrity, and availability of the information and information assets under its jurisdiction, the university has established Guidelines for Information Security and Personal Data Protection. These guidelines aim to create an information environment that supports the university's operations and complies with relevant regulations, safeguarding it against intentional or accidental threats from both internal and external sources. They are based on the Information and Cyber Security Management Act, the Personal Data Protection Act, and other related laws and regulations. Additionally, the university has obtained ISO 27001:2013 certification for its Information Security Management System. To further enhance the implementation of information security and personal data protection, the university has established the Information Security and Personal Data Protection Management Committee. The committee conducts annual meetings to review information security management and perform policy audits.



Methods for Identifying and Resolving Data Security Issues

I. Methods for Identifying Data Security Vulnerabilities within Information Systems

- (I) The system is scanned using professional vulnerability scanning tools to identify potential vulnerabilities and weaknesses. These tools can detect common security issues such as outdated software, default passwords, and open ports.
- (II) Conduct penetration testing to simulate the behavior of attackers and evaluate the system for potential vulnerabilities.
- (III) Analyzing event logs of systems and applications to detect abnormal activities or potential security threats.
- (IV) Implement a continuous monitoring mechanism to detect potential threats and vulnerabilities at all times, including real-time monitoring of firewalls, intrusion detection systems (IDS), intrusion prevention systems (IPS), etc.

II. Methods for resolving identified data security risks and vulnerabilities

- (I) Based on the results of vulnerability scanning, penetration testing, and other assessments, a remediation plan has been developed and implemented. Ensure that known vulnerabilities are promptly patched to prevent attacks.
- (II) Limit manager permissions and only grant users the minimum permissions they need.
- (III) Develop and implement information security standards and policies to ensure consistent understanding and compliance with security measures throughout the organization.
- (IV) Provide regular information security training to enhance internal awareness of information security within the organization and reduce the risks caused by human errors.
- (V) Develop and implement a cybersecurity incident response plan to ensure a prompt and effective response to security incidents, minimizing damage. Regularly conduct safety drills to simulate various security incidents in order to evaluate the effectiveness of contingency plans and provide real-world experience.

To strengthen data security at our school and identify evolving attack methods, we not only monitor the real-time status of our systems but also analyze known attack methods. The analysis is as follows:

Ransomware Attack

A ransomware attack is a type of threat trend where attackers typically encrypt important data and then demand a ransom to reveal the data or unlock the system. The frequency of these attacks is increasing, and attackers are expanding their target range to various organizations.

Social Engineering Attacks

Social engineering attacks are a usual form of attack. Attackers deceive users into providing sensitive information, such as account passwords or payment details, through means such as phishing emails and disguised websites.

IoT Attacks

With the proliferation of IoT devices, attackers are also targeting these devices to gain sensitive information or cause damage to infrastructure. The security issues of many IoT devices make them targets for attacks.



ISO/IEC 27001 provides a management system for network attacks and response measures to address various aspects of information security. In terms of procedures, identify potential vulnerabilities and weaknesses through regular risk assessments and evaluate their impact on the organization. Additionally, establish an effective vulnerability patch management process. Timely notify vendors of security updates and patches for operating systems, applications, and hardware to mitigate the risks of known vulnerabilities. Develop and implement a network attack response plan to address security incidents promptly and effectively. This includes backup and recovery plans to reduce the damage caused by attacks, as well as providing education and training to the school's faculty and staff on network security. Enhance identification of social engineering and phishing attacks to reduce the likelihood of internal users becoming targets.

In terms of physical aspects, use vulnerability scanning tools to regularly scan network devices and applications to identify potential vulnerabilities. The scan results should be incorporated into the risk assessment and risk management processes; regular security reviews should be conducted, including network architecture and equipment configuration. This helps identify potential vulnerabilities while ensuring the implementation of best security practices, deploying network management software for real-time monitoring of network traffic, detection, and defense against possible intrusions. These systems are capable of detecting and preventing abnormal behavior in real-time, thereby reducing the impact of network attacks. They also involve implementing secure network and system configurations. Close unnecessary services, ports, and features, and ensure that the settings of devices and applications are secure. Implement effective monitoring and log management mechanisms to track network activities and detect abnormal behavior.

Information Lifecycle

The data collection lifecycle process includes the collection, processing, utilization, preservation, and destruction of data. The management of this life cycle is designed to ensure the proper protection of student information while complying with relevant laws and regulations. The implementation focuses of each stage are described below:

- I. Collection Phase: The life cycle of student data begins with data collection. This may include students' basic information, such as their name, address, date of birth, family background, academic performance, and health condition.
- II. Processing and Utilization Stage: The use of student data, including learning management systems, instructional support, academic research, etc. At this stage, it is necessary to adhere to the principles of privacy and only use data within a legal and transparent scope.
- III. Phase of Preservation: The collected student data needs to be properly preserved. This involves establishing a secure database, employing encryption technology to safeguard sensitive information, and ensuring that only authorized personnel can access this data.
- IV. Destruction Phase: When student data is no longer needed, it must be destroyed in a secure manner. This includes securely deleting data or securely destroying media to prevent unauthorized access.

In addition to complying with our country's Personal Data Protection Act, the life cycle of student data collection, processing, and utilization must also take into account international privacy protection standards, such as ISO 29100 and BS 10012. This lifecycle management helps ensure the legality, transparency, and privacy protection of student data.



1. In 2022, the number of information leaks was zero, with a percentage of personal data leakage also at 0%. The number of students affected by data leaks was also zero.
2. There have been 0 complaints confirmed by the university from external sources regarding privacy infringement.
3. There were zero cases of complaints regarding privacy infringement from the Ministry of Education.
4. There have been zero confirmed incidents of information leakage, theft, or loss of customer data.

2.10 Material Topics and Stakeholders

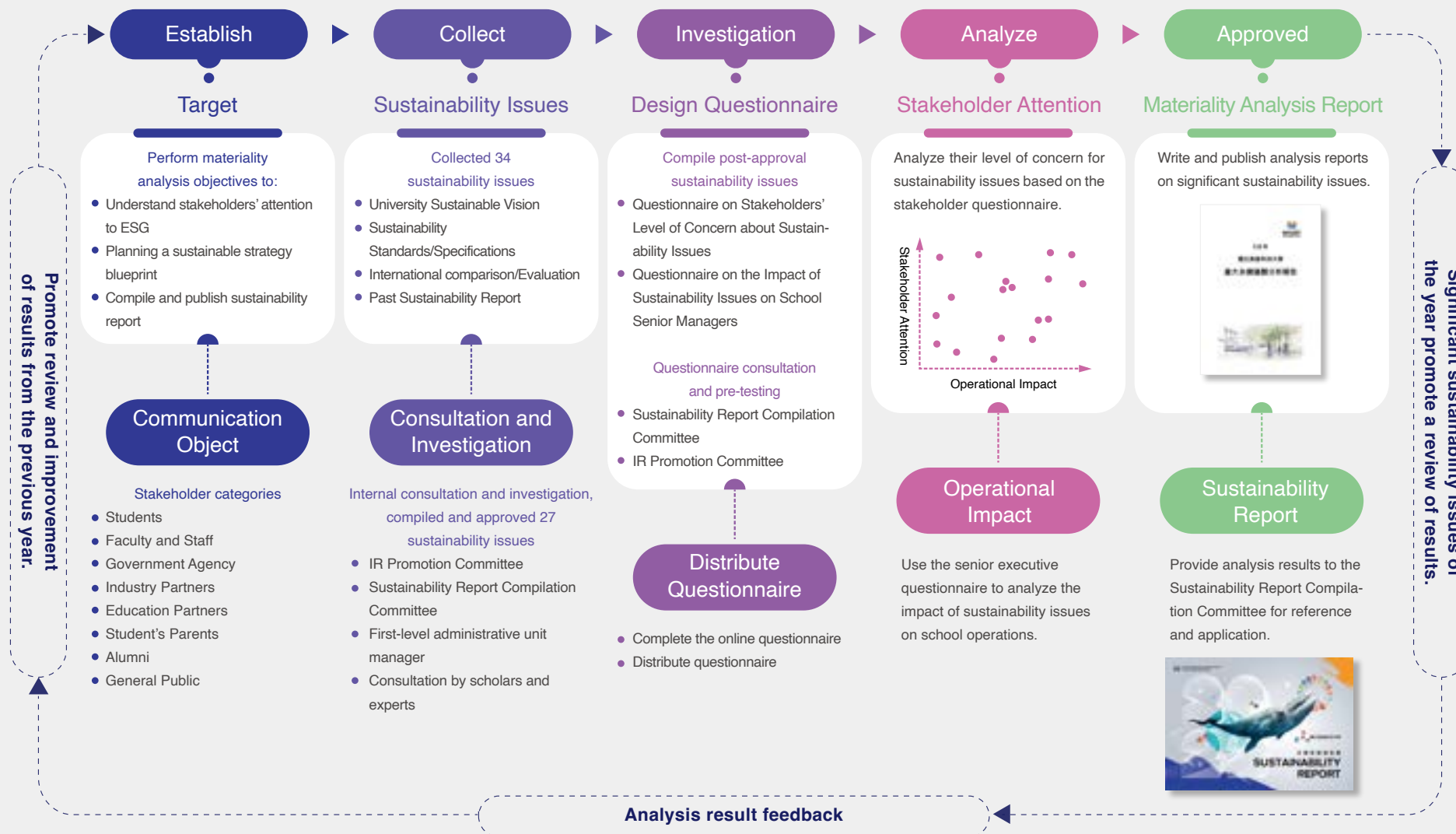
For the first time, our university has conducted an analysis of sustainability issues, collecting expectations and feedback from stakeholders through questionnaires. This analysis identified material topics that will guide the compilation of our university's sustainable development report. Furthermore, based on the significance analysis, our university has calibrated its sustainability goals and strategies, establishing a foundation for reviewing and enhancing the effectiveness of our social responsibility initiatives in the coming year. In collaboration with stakeholders, we aim to build a sustainable future for mutual benefit. Stakeholders are internal or external groups or individuals who impact or are affected by our university's operations, teaching and research, environment, and society. Through the consultation process with the Sustainable Development Report Compilation Committee and the heads of primary administrative units, the relevant stakeholders of our school have been identified and categorized as follows: faculty and staff, students, alumni, parents of students, government agencies, industry partners, educational partners, and the general public. Here is a summary:

The agreed-upon sustainable goals are as shown in the following diagram:

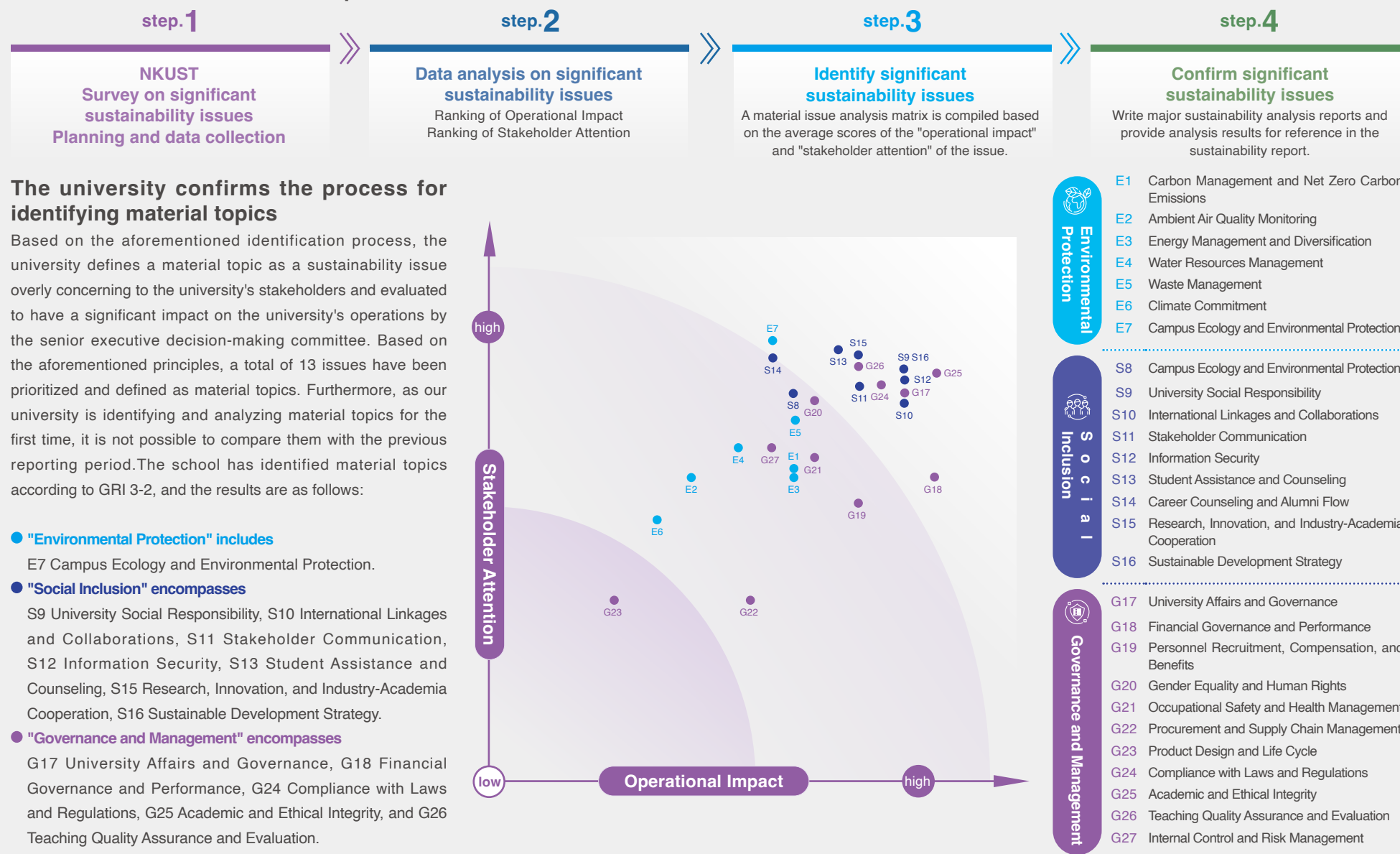


2.10.1 Process for Material Topics

In order to comprehensively collect, examine, and respond to stakeholders' expectations regarding sustainability issues, the university has defined a method for identifying material topics relevant to its operations, following the process outlined in GRI 3-1. This method involves five steps: establishment, collection, investigation, analysis, and approval (as illustrated in the diagram below). Through internal consultation, surveys, and verification, 13 out of the 27 identified sustainability issues have been selected as material topics. These topics are then reported to stakeholders in order of their significant impact.



NKUST's Process for Material Topics



● **"Environmental Protection" includes**

E7 Campus Ecology and Environmental Protection.

● **"Social Inclusion" encompasses**

S9 University Social Responsibility, S10 International Linkages and Collaborations, S11 Stakeholder Communication, S12 Information Security, S13 Student Assistance and Counseling, S15 Research, Innovation, and Industry-Academia Cooperation, S16 Sustainable Development Strategy.

● **"Governance and Management" encompasses**

G17 University Affairs and Governance, G18 Financial Governance and Performance, G24 Compliance with Laws and Regulations, G25 Academic and Ethical Integrity, and G26 Teaching Quality Assurance and Evaluation.



The Importance of the School's Industry Context and the Impact of Major Themes*

SASB: Education	Material Topics for Reporting	SDGs	STARS	GRI 3 Material Topics	The University's Mid-term School Development Plan for the 2022-2025 Academic Years	The Importance of NKUST	The Impact on Stakeholders (● Direct / ▲ Indirect)	Corresponding Chapter
-	E7 Campus Ecology and Environmental Protection		AC-5 OP-1 OP-3 OP-4 OP-10	GRI 304 Biodiversity	R1 Constructing an Environmentally Friendly and Sustainable University E3 Promoting the Overall Revitalization of the Campus	Campus identity is an ideological shaping process that molds the campus to have humanistic characteristics, creating an inclusive and friendly campus environment that embodies both humanism and ideology.	● Faculty and staff, students ▲ The general public	3.3 Campus Sustainability Practices 5.7 Campus Ecology
-	S13 Student Awards and Counseling		PA-7	GRI Customized Material Topics NKUST 4 Student Academic Support and Counseling	R2 Promoting a Social Responsibility Support System A4 Enhancing Research Capability and Improving Quality	Establish a sound reward and subsidy mechanism to enhance students' motivation to obtain professional certifications, strengthen their professional foundation, and enhance academic competitiveness.	● Faculty and staff, students, government agencies ▲ Education Partners	3.8 Student Care
-	S15 Research, innovation, and Industry-academia Collaboration		AC-9	GRI Customized Material Topics NKUST 1 Academic Research Quality	A1 Expanding cross-domain integration of industry-academia research and development A2 Cultivating an innovative entrepreneurship ecosystem A3 Developing the main characteristics of the marine profession T1 Cultivating future talents through innovative teaching T4 Development of forward-looking technology applications research	Combine the research and development capabilities and resources of the industry and academia, seeking government initiatives, developing industrial technology, nurturing industry talents, and assisting in the upgrading of key industries in the region.	● Faculty and staff, students, industry partners, government agencies ▲ General public, education partners	3.5 Academic Performance
SV-ED-260a.1 SV-ED-260a.2 SV-ED-260a.3 SV-ED-000.A	G26 Teaching Quality Assurance and Evaluation		AC-1 AC-2 AC-3 AC-4	GRI Customized Material Topics NKUST 2 Teaching Quality and Effectiveness	A4 Enhancing Research Capability and Improving Quality T1 Cultivating future talents through innovative teaching T3 Enhancing competitive advantage in retention and attraction of talent	To enhance human capital, establish teaching quality assurance, strengthen overall teaching and research capabilities, and promote competitive advancement and upgrading.	● Faculty and staff, students, government agencies ▲ Education partners, industry partners	2.3.3 Diverse Students 3.1 Sustainable Courses 3.2 Lifelong Sustainable Education 3.6 Teaching Quality Assurance 3.8.2 Career counseling and employment performance of graduates

* This table is prepared based on the "SASB: Education 2018", "Linking the SDGs and the GRI Standards 2022," "United Nations Sustainable Development Goals (SDGs)," "The Sustainability Tracking, Assessment & Rating System-2.2 (STRAS-2.2)," and "Mid-term School Development Plan for the 2022-2025 Academic Years."



SASB: Education	Material Topics for Reporting	SDGs	STARS	GRI 3 Material Topics	The University's Mid-term School Development Plan for the 2022-2025 Academic Years	The Importance of NKUST	The Impact on Stakeholders (● Direct / ▲ Indirect)	Corresponding Chapter
-	S16 Sustainable development strategy		PA-2	-	R1 Constructing an environmentally friendly and sustainable university	In response to the global focus on Sustainable Development Goals (SDGs) and the shared responsibility for global climate change, our university embraces the concepts of "environmentally friendly" and "sustainable development" as core principles in campus management and planning.	● Faculty and staff, students, the general public, government agencies ▲ Industry partners	1.4 Sustainable Values and Action Strategies
-	S9 University Social Responsibility		EN-3 EN-10	GRI 413 Local Community	R2 Promoting a social responsibility support system	To deepen our university's role in "serving society," we will more actively promote a social responsibility support system, facilitating creative cooperation between the university and the local community for mutual benefit and prosperity.	● Faculty and staff, students, the general public, government agencies ▲ Education partners, industry partners	4.1 University Social Responsibility 4.2 Focus Special Issue
-	G25 Academic and Ethical Integrity		-	GRI Customized Material Topics NKUST 3 Academic and Ethical Integrity	A4 Enhancing Research Capability and Improving Quality	Establishing a high-quality research paradigm is one of the missions of higher education, aimed at maintaining the reputation of our university and enhancing academic competitiveness.	● Faculty and staff, students, government agencies ▲ Education partners, industry partners	3.7 Academic and Ethical Integrity
SV-ED-230a.1 SV-ED-230a.2 SV-ED-230a.3	S12 Information Security		-	GRI 418 Customer Privacy	E1 Enhancing administrative efficiency and service capability E4 Create smart campus information value-added services	Our university has the highest number of students among all the science and technology universities in the country. It is therefore crucial to maintain the operation, security, and stability of the school's administrative system. We achieve this by regularly updating and maintaining our information equipment to ensure the safe utilization of these devices by all faculty and students.	● Faculty and staff, students, government agencies ▲ Student's parents, education partners, industry partners	2.9 Information Security



SASB: Education	Material Topics for Reporting	SDGs	STARS	GRI 3 Material Topics	The University's Mid-term School Development Plan for the 2022-2025 Academic Years	The Importance of NKUST	The Impact on Stakeholders (● Direct / ▲ Indirect)	Corresponding Chapter
SV-ED-270a.4	G24 Compliance with Laws and Regulations		-	-	T3 Enhancing competitive advantage in retention and attraction of talent	In response to regulatory trends, we aim to maintain the rationality of regulatory policies and achieve fairness and justice.	● Government agencies, industry partners ▲ Faculty and staff	No incidents of major regulatory violations
-	S11 Stakeholder communication		PA-3	-	R4 Shape the cultural brand to enhance reputation	Continuously engaging with stakeholders and publicly disclosing school information can gradually enhance the reputation and brand image of our institution, strengthen educational capacity, and improve enrollment advantages.	● Faculty and staff students, alumni, student's parents, education partners, industry partners, government agencies ▲ -	2.10 Material Topics and Stakeholders
SV-ED-000.D	G17 University Affairs and Governance		PA-1 PA-5 PA-6 PA-9	-	E1 Enhancing administrative efficiency and service capability	Campus operations are crucial for the sustainable management and development of the university. The university is committed to promoting sustainable campus governance and enhancing competitiveness.	● Our school is committed to promoting sustainable campus governance to enhance competitiveness. ▲ Students, student's parents	1.3 Vision for Academic Development 2.1 Diversified Governance 2.3 Workforce Diversity
-	S10 International Linkages and Cooperation		EN-11	GRI Customized Material Topics NKUST 5 International Linkages	G1 Deepening the Integration of Southbound Bases with the International Market G2 Strengthening international industry- research exchange and cooperation G3 Promoting multilingual and diverse learning in universities G4 Enhancing Global Influence and Visibility	By implementing a comprehensive internationalization strategy and executing various action plans, we aim to transform the previous impression of insufficient internationalization in vocational education and enhance the international competitiveness of vocational education in our country.	● Faculty and staff, students, education partner, industry partner ▲ Student's parents, government agencies	4.6 International Exchange
SV-ED-270a.1 SV-ED-270a.2 SV-ED-270a.3	G18 Financial Governance and Performance		PA-10 PA-11	GRI 201 Economic Performance	E1 Enhancing administrative efficiency and service capability	By implementing professional management and transparent oversight mechanisms, we ensure the operational efficiency of the school's endowment fund to achieve sustainable business goals.	● Faculty and staff, students, alumni, student's parents, government agencies ▲ Industry partners	2.1.3 Financial Information



NKUST's Material Topics Management Policy

Material Topics	Policy commitments	Short-term Goals	Medium to Long term goals	Executing Unit
E7 Campus ecology and environmental protection	Implement campus environmental maintenance, establish a smart energy management system, and optimize campus landscape facilities to create a welcoming and friendly campus environment.	✓ Every year, through official email, we strengthen the promotion of waste sorting on campus and advocate for waste reduction. ✓ The air quality purification zone receives an assessment score of 80 or above from the Kaohsiung City Government Environmental Protection Bureau every year.	✓ Promote campus waste reduction management at the source and establish a smart energy management system to enhance energy efficiency. ✓ Promote campus waste reduction in alignment with the school development plan, aiming to reduce waste generation by 5% and increase resource recycling by 10% within four years (111-114). ✓ Maintain an average annual campus energy conservation rate of 1% or higher to enhance the energy efficiency of our institution.	Office of General Affairs Environmental, Occupational Safety and Health Center
S13 Student Awards and Counseling	By planning and improving the mechanisms for education and employment assistance, we aim to ensure that disadvantaged students at our university can study and work in comfort. This will ultimately lead to their self-fulfillment, the transformation of their disadvantaged status, and the fulfillment of our social responsibility.	✓ In response to the economic and cultural disadvantages faced by students, we have established the "Learning in Lieu of Work-Study" program. This program allows students to focus on their studies and proactively plan their learning time. We will provide incentives to a total of 2,000 students. ✓ Providing students with resources to develop professional skills, obtaining 500 professional certifications to enhance students' employability.	✓ Assisting economically disadvantaged students who participate in the academic tutoring program to improve their grades, accounting for over 70% of program participants, in order to enhance their learning performance. ✓ Providing students with resources to develop professional skills and increasing the number of students obtaining professional certifications by 15% within 4 years to enhance graduates' employability.	Office of Student Affairs
S15 Research, innovation, and industry-academia collaboration	In order to align with national industrial development policies, we will harness the research and development capabilities of our faculty to implement practical industry-academia collaboration and applied research at our university. This will create a high-quality environment for industry-academia interaction, and we will focus on interdisciplinary education, cross-domain industry-academia cooperation, and rewarding research and development achievements.	Innovative Research ✓ Enhance the research capacity of teachers by improving the measures for research award subsidies. Industry-Academia Collaboration ✓ A total of 600 industry-academia collaboration projects have been implemented university-wide to enhance the overall research and development capabilities.	Innovative Research ✓ Within 4 years, the number of journal articles published by the entire school has increased by 20% to enhance the quality and quantity of journal article publications at our institution. ✓ Within 4 years, the number of subsidies for distinct types of research awards for teachers has increased by 20% to promote the academic research capacity of our university. Industry-Academia Collaboration ✓ On average, each teacher engages in industry-academia collaboration with an annual amount exceeding 1 million, and outstanding teachers in industry-academia cooperation are rewarded to enhance the overall research and development capacity of industry and academia. ✓ Every year, we complete 5 cross-domain or cross-school technical cooperation projects to develop innovative industries.	Office of Research and Development Office of Industry-Academia Cooperation



Material Topics	Policy commitments	Short-term Goals	Medium to Long term goals	Executing Unit
G26 Teaching Quality Assurance and Evaluation	The university positions itself as an exemplar of internationalized vocational education, with a focus on integrating industry connections, innovation and entrepreneurship, marine expertise, and social responsibility. It aims to cultivate talent that meets industry demands and is practical, innovative, and capable of cross-domain collaboration.	✓ The teaching support system, with a focus on research-based teaching practices, has been enhanced through various innovative measures, including teacher professional development programs, grants for innovative teaching methods, problem-based and project-based learning courses, and online course development. A total of 100 grants have been awarded.	✓ Increase the teacher community subsidies by 10% within 4 years, increase the number of applications for the Ministry of Education's Teaching Practice Research Project by 5%, and increase the number of courses using innovative teaching methods by 10%. ✓ The pass rate for academic units at the college or department level that apply for evaluation every year is 100%.	Office of Academic Affairs Office of Research and Development
S16 Sustainable development strategy	Identify key themes, track, and evaluate the effectiveness of implementation through the establishment of specific sustainable development goals on a regular basis.	✓ An annual sustainable development report is compiled, with the key issues of the report being revised based on global sustainability trend	✓ Promote sustainability education by organizing relevant lectures and activities every year, aiming to achieve the goal of becoming a net-zero sustainable university.	Office of Sustainable Development
S9 University Social Responsibility	To deepen the function of serving society at our university, we will strengthen the initiative-taking integration of colleges and universities with the community, society, and industry in order to drive the prosperity and development of the local area and fulfill our university's social responsibility.	✓ Incubate 10 teams for micro projects on social responsibility.	✓ The incubated social responsibility micro-project teams have facilitated the creation of four outstanding cases.	Office of Industry-Academia Cooperation
G25 Academic and Ethical Integrity	We are committed to upholding the principles of integrity, impartiality, and lawful administration and strive to maintain high standards of honesty and transparency in all aspects of our academic operations and decision-making processes.	✓ Promote the enrollment of designated academic ethics courses by faculty and students on campus and obtain course completion certificates. All of our graduate students who participated in the Center for Taiwan Academic Research Ethics Education passed with a 100% success rate. ✓ One anti-corruption promotion seminar is held annually.	✓ The pass rate for all graduate students participating in the academic ethics course on campus reached 100%. ✓ Continuously promoting a culture of integrity, strengthening our commitment to academic ethics and clean administration, and organizing an annual lecture on promoting integrity.	Office of Academic Affairs Personnel Office
S12 Information Security	The key to promoting information technology work lies in the stability of school information equipment and ensuring information security. To facilitate the smooth implementation of school-wide business informatization and achieve the secondary goal of enhancing administrative efficiency, a mobile action plan for information equipment maintenance and expansion is proposed to ensure stable and secure information.	✓ Replace network equipment type 1 to provide a stable campus network and enhance administrative service efficiency.	✓ Several procurement-related auxiliary equipment will be acquired to optimize the quality of teaching and administrative services in order to maintain the normal operation of the school's administrative system. ✓ Annual maintenance of the school-wide multi-point synchronous distance video conferencing system, as well as the maintenance of administrative units and the network and computer equipment in the central classrooms. ✓ Every year, we conduct administrative operations, teaching, and improvements to antivirus software to ensure the security and stability of all information equipment.	Computer and Network Center



Material Topics	Policy commitments	Short-term Goals	Medium to Long term goals	Executing Unit
G24 Compliance with Laws and Regulations	To strengthen talent recruitment and retention efforts, various talent incentive systems have been established, including the establishment of lectureships/special appointments/special outstanding research talents, as well as flexible salary incentive measures for teaching, counseling, and service talents, in order to enhance the career development of teachers.	✓ Regularly review regulations and policies each year to enhance the development of teachers' careers.	✓ Every year, in accordance with the development of school affairs and relevant regulations, the internal regulations regarding the personnel of teachers are periodically revised.	Personnel Office
S11 Stakeholder communication	Through the School Information Disclosure section, we publicly disclose information on school affairs, finances, tuition fees, subsidies, internal control effectiveness, school performance, and higher education development plans. We regularly update this information to enhance transparency and fulfill the university's social responsibility.	✓ Every year, we enhance media communication and community engagement to expand brand benefits. Increase promotional channels and maintain ongoing communication with stakeholders of this school.	✓ The school discloses information about its operations and regularly updates its public information to enhance its self-accountability.	Office of the Secretariat Office of Sustainable Development
G17 University Affairs and Governance	With excellence as our core value, we strive to enhance administrative efficiency and promote innovative services.	✓ Enhance professional core competencies and improve the quality of administrative services. Each year, 50% of in-house personnel are required to complete procurement and information security training courses.	✓ Integrate administrative operation system functions to enhance administrative service efficiency. Increase the proportion of business informatization in each unit by 10% within 4 years.	Office of the Secretariat Computer and Network Center
S10 International Linkages and Cooperation	By participating in international alliances, enhancing international academic research collaboration, and improving international industry-academia capabilities, we actively promote internationalization.	✓ Strengthening the connection with sister schools to increase opportunities for students to participate in international exchange activities, study abroad, and internships. Engaged in bilateral exchanges with 30 international alliances and sister schools.	✓ In accordance with the "2030 Bilingual National Policy" and the Ministry of Education's "The Program on Bilingual Education for Student's in College," we have formulated the "2028 University Bilingual Promotion Plan" Type 1. ✓ To enhance our university's international ranking, we aim to improve our position in the QS Asia University Rankings to 350-400 and increase our collaboration with international research journals, resulting in a 10% growth in published works.	Office of Research and Development Office of International Affairs
G18 Financial Governance and Performance	Enhancing the efficiency of school fund execution to achieve sustainable management goals.	✓ To achieve a stable academic fund and expand the goals of academic development, it is ensured that there is no substantial deficit in the annual financial statements.	✓ Implement annual financial planning reports for school funds and a mechanism for disclosing school financial information.	Office of Financial Affairs Accounting Office

2.10.2 Listening to Stakeholders

The school is committed to engaging with all stakeholders and strives to understand the various issues that different organizations and individuals care about. By establishing effective communication channels, the school aims to facilitate two-way communication and feedback, thereby promoting the development of the school and creating a diverse and friendly campus environment. The following is an explanation of the issues, communication methods, and frequency of concern to stakeholders:

Concerns of stakeholders and communication methods

Category of stakeholders	The significance of NKUST	Concerned issues	Communication Method	Frequency
 Faculty and staff	The faculty and staff are the most valuable assets of our institution, and we strive to create an excellent compensation and benefits system.	● Energy Management and Diversification ● Campus Ecology and Environmental Protection * ● Information Security ● Career Counseling and Alumni Destination ● Research, innovation, and Industry-academia Collaboration ● Sustainable Development strategy ● University Affairs and Governance ● Financial Governance and Performance ● Personnel Recruitment and Remuneration * ● Occupational Safety and Health Management ● Compliance with Laws and Regulation	Campus Feedback System	At any time
			Satisfaction Survey for Administrative Services	Once a year
			University Council	Two sessions per semester
			Administrative Meeting	Once per month
			Internal Relevant Committees	Oversee according to demand
			University-level Research Center Exchange Symposium	Ad hoc
			Administrative and Academic Exchange Symposium	Once every semester
			Public Hearings	Ad hoc
			Academic Affairs Exchange Meeting	Once every academic year
			Handling of Staff Grievances	Case Review
			Labor-Management Meeting	Once every 3 months
			School Website and Campus Information Public Section	At any time
			Official Email Addresses for Every Department	At any time
			Campus Feedback System	At any time
			Satisfaction Survey for Administrative Services	Once a year
 Student	Students are the driving force behind our school's continuous promotion of innovative education, with the expectation of cultivating more outstanding technical and vocational talents to drive the development of businesses in the southern region.	● Campus Ecology and Environmental Protection * ● Information Security * ● Student Academic Support and Counseling ● Career Counseling and Alumni Destination ● Research, innovation, and Industry-academia Collaboration * ● Gender Equality and Human Rights ● Compliance with Laws and Regulation * ● Teaching Quality Assurance and Evaluation	Intern Student Satisfaction Survey	Once every academic year
			University Council	Two sessions per semester
			Students with Disabilities Individual Support Plan (ISP) Meeting	Oversee according to demand
			Meeting with the Principal	Once every semester
			Internal Relevant Committees	Oversee according to demand
			Dormitory Student Conference	Once every semester
			Handling Student Grievances	Case Review
			School Website and Campus Information Public Section	At any time
			Official Email Addresses for Every Department	At any time
			Campus Feedback System	At any time

*** Indicates that after identifying material topics, it represents the most concerning issue for stakeholders within that category.



Category of stakeholders	The significance of NKUST	Concerned issues	Communication Method	Frequency
 Student's parents	Parents play a crucial role in driving the educational process, as they actively participate in and contribute to their children's education. Through effective communication and feedback, parents gain a deeper understanding of the direction and purpose of educational reforms, and work hand in hand to strive for their children's educational success.	● Campus Ecology and Environmental Protection * ● Student Academic Support and Counseling ● Career Counseling and Alumni Destination * ● Research, innovation, and Industry-academia Collaboration * ● Teaching Quality Assurance and Evaluation *	Campus Feedback System	At any time
			Students with Disabilities Individual Support Plan (ISP) Meeting	Oversee according to demand
			Admissions Information Seminar	Oversee according to demand
			Prospective Students' Parents Briefing Session	Oversee according to demand
			School Website and Campus Information Public Section	At any time
 Alumni	Alumni are important drivers in promoting our university's expansion into a wider range of higher education fields. Through the cohesion of the alumni association, we provide employment and innovation services, showcasing the reputation and vision of our alma mater.	● Campus Ecology and Environmental Protection * ● Community Engagement and Local Care ● University Social Responsibility ● Information Security ● Student Academic Support and Counseling * ● Career Counseling and Alumni Destination ● Research, innovation, and Industry-academia Collaboration ● Sustainable Development strategy ● University Affairs and Governance ● Financial governance and performance ● Compliance with Laws and Regulation *	Campus Feedback System	At any time
			Employer Satisfaction Survey	Once every academic year
			Graduate Destination Survey	Once every academic year
			Alumni Services System	At any time
			NKUST Alumni Center Website	At any time
			Internship and Employment Expert Website and Social Media	At any time
			Conducting selection for outstanding alumni and outstanding departmental alumni	Once a year
			School Anniversary Ceremony and Series of Events	At least 15 events per year
			School Website and Campus Information Public Section	At any time
			Official Email Addresses for Every Department	At any time
 Education Partners	Education partners play a crucial role as a bridge between students and our institution, fostering a close connection through various activities and lectures.	● Campus Ecology and Environmental Protection * ● Information Security ● Student Academic Support and Counseling * ● Sustainable Development Strategy ● University Affairs and Governance ● Financial Governance and Performance ● Gender Equality and Human Rights * ● Compliance with laws and regulations ● Teaching Quality Assurance and Evaluation	Campus Feedback System	At any time
			High School Students Orientation and Mock Test	Approximately 30 events per year
			School Website and Campus Information Public Section	At any time
			Official Email Addresses for Every Department	At any time

*** Indicates that after identifying material topics, it represents the most concerning issue for stakeholders within that category.



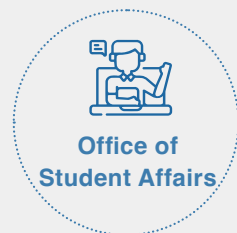
Category of stakeholders	The significance of NKUST	Concerned issues	Communication Method	Frequency
 Industry partners	Enterprise partners play a crucial role in innovative research and student internships at our university. By matching industries together, we are committed to realizing innovation and entrepreneurship, cultivating innovative talents with cross-disciplinary integration capabilities.	● Campus Ecology and Environmental Protection * ● Information Security ● Student Academic Support and Counseling * ● Career Counseling and Alumni Destination ● Research, innovation, and Industry-academia Collaboration ● Sustainable Development strategy ● University Affairs and Governance ● Financial Governance and Performance ● Gender Equality and Human Rights * ● Procurement and Supply Chain Management ● Product Design and Lifecycle Management ● Compliance with Laws and Regulation ● Teaching Quality Assurance and Evaluation	Campus Feedback System	At any time
			Internship Institution Satisfaction Survey	Once every academic year
			Employer Satisfaction Survey	Once every academic year
			Internship and Employment Expert Website and Social Media	At any time
			Meetings and workshops related to various project plans	Oversee according to demand
			The public website for each project plan	At any time
			Contact and negotiate with enterprises for industry-academia collaboration projects	Oversee according to demand
			Industry-Academia Collaboration Seminar, Industry-Academia Exchange Meeting, Corporate Presentation	Oversee according to demand
			Technology Transfer and Licensed Manufacturers	Ad hoc
			Industry-Academia Collaboration Platform	At any time
			Landlord Symposium	Once every year
			Distribution of press releases and organization of press conferences	Ad hoc
			Development of self-media	Ad hoc
			Business Attraction Evaluation Conference	At least 3 per year
			Procurement Evaluation Meeting	At least 3 per year
			Outsourced Manufacturer Employee Interview Meeting	Once every year
			Manufacturer Education and Training	Once a year
			School Website and Campus Information Public Section	At any time
			Official Email Addresses for Every Department	At any time
 Government agencies	In the progress of school affairs, the government not only plays a crucial role as a leader and advisor but also collaborates with the industry to cultivate talents with innovative capabilities and liberal arts education.	● Campus Ecology and Environmental Protection * ● University Social Responsibility ● Information Security * ● Career Counseling and Alumni Destination * ● Sustainable Development strategy ● University Affairs and Governance * ● Financial Governance and Performance ● Occupational Safety and Health Management ● Procurement and Supply Chain Management ● Teaching Quality Assurance and Evaluation * ● Compliance with Laws and Regulation	Kaohsiung City University Consortium meeting	Oversee according to demand
			Meetings of Various Administrators in National Universities and Colleges	More than 4 events per year
			Campus Database Reporting	Once every 2 years
			Official documents and on-the-spot inspections	Approximately 800 items per month
			Meetings and workshops related to various project plans	Oversee according to demand
			The public website for each project plan	At any time
			Accreditation by various professional organizations, self-evaluation by academic units	Oversee according to demand
			School Website and Campus Information Public Section	At any time
			Campus Feedback System	At any time
			Continuing Education Conference	Oversee according to demand
 The general public	Utilizing the social influence of universities, integrating resources on campus, and collaborating with industries, we are committed to engaging in ecological issues and elderly affairs in the surrounding communities, in order to build a mutually beneficial and prosperous society.	● Water Stewardship ● Waste management ● Campus Ecology and Environmental Protection * ● Community Engagement and Local Care ● University Social Responsibility ● Research, innovation, and Industry-academia Collaboration * ● Sustainable Development strategy ● Compliance with Laws and Regulation ● Academic and Ethical Integrity *	Volunteer Service and Social Practice (Pay attention to exchanges and visits)	At least 6 per year
			School Website and Campus Information Public Section	At any time
			Official Email Addresses for Every Department	At any time

*** Indicates that after identifying material topics, it represents the most concerning issue for stakeholders within that category.



In 2022, our university documented a total of 30 remarkable events. This included identifying potential and actual negative impacts on stakeholders through the grievance mechanism and other procedures. These events are evaluated through various mechanisms and are critical to our university's operations and business relationships. In addition, the Office of the Secretariat's Administrative Affairs Division coordinates the handling and response to community petitions and reform proposals.

The statistical summary of significant key events for NKUST in 2022



Office of
Student Affairs

Summary of Key Significant Events

Cases of grievances, appeals,
administrative litigation, and
gender-related incidents.

26 / pieces

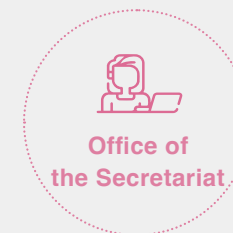


Office of
General Affairs

Summary of Key Significant Events

Procurement Dispute Case

2 / pieces



Office of
the Secretariat

Summary of Key Significant Events

Gender equality appeals,
teacher complaints, and
re-appeal cases.

2 / pieces

CHAPTER 3

Cultivation of Innovative Talents



- ③.1 Sustainable courses
- ③.2 Lifelong Sustainable Education
- ③.3 Campus Sustainability Practices
- ③.4 Sustainable Product Development
- ③.5 Academic Performance
- ③.6 Teaching Quality Assurance
- ③.7 Academic and Ethical Integrity
- ③.8 Student Care





3.1 Sustainable courses

Educating the younger generation is one of the primary missions of universities. To cultivate future leaders, scholars, workers, and professionals, universities leverage their unique advantages and characteristics to help students understand and address the sustainable challenges of future society. By offering courses covering sustainable issues, universities can assist students in acquiring relevant knowledge and skills, guiding society towards a sustainable future. The university's curriculum integrates three distinct development advantages and characteristics: pro-production and high quality, innovation and entrepreneurship, and marine science and technology. In the 2021/2022 academic year, a total of 1,199 sustainability-related courses were offered (57 in the five-year junior college, 918 in the undergraduate department, and 224 in the graduate institute). Seventy departments and centers provided at least one sustainability course, with 38 departments including sustainability courses as mandatory credits.

The sustainable curriculum for the 2021/2022 academic year is primarily focused on three core sustainable goals: Preserving marine and terrestrial ecosystems (SDGs 14, 15), Industrialization, innovation, and infrastructure (SDGs 9), and Quality Education (SDGs 4). Secondary goals encompass Sustainable Cities and Communities (SDGs 11), Health and Well-being (SDGs 3), Decent Work and Economic Growth (SDGs 8), and Affordable and Clean Energy (SDGs 7). These objectives are deeply integrated into curriculum development and design, enabling students to comprehend international trends and acquire the skills and competencies necessary to confront future generational challenges.

Number of Sustainable Courses and Required Courses for Each Department in 2022

	Number of Sustainable Courses in the Undergraduate Program	Number of Sustainable Courses in the Graduate Program	Number of Sustainable Courses in the 5 year Junior College Program	Are there any required credits among them
College of Engineering ▶	106	58	8	○
College of Electrical Engineering and Computer Science ▶	36	20	0	○
College of Maritime ▶	70	19	20	○
College of Hydrophere Science ▶	181	35	23	○
Business Intelligence School ▶	30	9	0	○
College of Management ▶	67	52	0	○
College of Marine Commerce ▶	49	21	0	○
College of Finance and Banking ▶	0	3	0	○
College of Humanities and Social Sciences ▶	8	4	0	○
College of Foreign Languages ▶	16	3	0	○
College of General Education ▶	326	0	6	×
Center for Innovation and Entrepreneurship Education ▶	26	0	0	○
Regardless of the college ▶	3	0	0	
Total ▶	918	224	57	-



In the 2021/2022 academic year, our school offered a total of 1,199 courses on sustainable topics.



Narrative Ability Project

To encourage all departments and schools to offer sustainability-related courses, the university has gradually implemented incentive measures for teachers to develop such courses. In the 2021/2022 academic year, our university executed the Ministry of Education's "Topic-Oriented Interdisciplinary Narrative Skill Development Program" (hereinafter referred to as the Narrative Skill Program). Through learning innovative courses oriented around specific topics, this program expands students' interdisciplinary learning perspectives. By delving into field-specific issues, it addresses local needs, guides future thinking, and puts narrative learning into practice. It combines knowledge research, develops teaching practices, improves teaching collaboratively, and equips students with critical thinking skills while discovering new approaches in the teaching arena.

Our school is situated in Kaohsiung, a city undergoing a transition from a traditional industrial hub to a center focusing on green technology industries. Consequently, there is a heightened emphasis on sustainable urban and rural development. Given Kaohsiung's high-quality industrial environment, particularly its emphasis on marine heavy industries, SDGs 11 (Sustainable Cities and Communities) and SDGs 14 (Life Below Water) stand as primary considerations. We are exploring the potential for smart symbiosis within local industries to enhance students' ability to tackle real-world challenges and propose pragmatic solutions. This initiative has led to the creation of courses such as Smart Urban-Rural Placemaking and Sustainable Marine Development.

Through innovative teaching methods, teachers are presented with an alternative approach to traditional teaching methods. Utilizing the advantages of collaborative learning within the community, teachers exchange various teaching modules, aiming to revolutionize existing teaching patterns. The primary focus of interdisciplinary narrative courses is on the sustainable development of real-world scenarios. By establishing curriculum modules, students are encouraged to showcase their diverse storytelling abilities. Furthermore, field visits are organized to augment students' social awareness and altruistic spirit. The objective is for students to form an emotional bond with the land and contribute to local development through their professional skills and technical expertise.

I. "Smart Urban/Rural Placemaking" course

In consideration of geographical factors, the Fengshan District in Kaohsiung City has been selected as the development site for integrating modern technological tools into documentation and the creation of a smart navigation system. This initiative aims to shape the cultural and touristic essence of Kaohsiung, offering both domestic and international visitors an opportunity to delve into

the historical events and evolution of local culture. Moreover, it seeks to foster active engagement in conserving cultural and natural heritage, establishing a repository of Fengshan's history. This effort aims to provide a comprehensive understanding of the local area's developmental context and the interconnection between historical sites and cultural heritage. Starting from understanding the local traditional industry structure and unique craftsmanship, gaining insights into the former glory of the urban area, and further exploring the inherited industrial characteristics of the area, contemplating the revitalization plan for the ancient city, so that students can understand the geographical environment, historical sites, temple culture, and the challenges faced by traditional industries in the face of changing times, gradually declining in scale, and even the disappearing cultural context. To inherit the local cultural assets, the only way is to unleash creative promotion of the regional characteristics of Fengshan District, consider utilizing the historical tourism resources of the ancient city for marketing, assisting the transformation of craft industries, and contemplating sustainable methods for the preservation of traditional culture, to inject innovative energy into the Fengshan Ancient City.

After leading students on actual visits to distinctive areas in Fengshan District, Kaohsiung City, such as Huangpu New Village and the historical sites in the Fengshan urban area, the focus of the discussion shifted to local history and culture, serving as the foundation for sustainable tourism development. Huangpu New Village, situated directly across from the Republic of China Military Academy, was originally planned by General Sun Li-ren as a military dependents' village. Over time, observing the environment and living conditions of that era has become increasingly challenging. In most locations, only documentary materials remain available. However, in Fengshan's Huangpu New Village, there exists a meticulously preserved site of the military dependents' village. Through field investigations, teachers facilitate student understanding of the residents' way of life via interviews. They then proceed to survey architectural structures and create scaled models to replicate the distinctive features of the military dependents' houses. This practical engagement enables students to grasp the significance of preserving the historical culture and artifacts of the military dependents' village. By interacting and exchanging insights, students not only learn about the local culture but also contribute their expertise to aid the local community in developing sustainable tourism. Such practical experiences equip them to effectively apply their professional skills and practical abilities upon entering the workforce in the future.

II. Sustainable Ocean Resources Course Group

Kaohsiung is the center of Taiwan's distant water fishing industry and possesses abundant marine tourism

resources. NKUST's teaching and research endeavors aim to nurture talent in sustainable marine resources by focusing on the sustainable utilization of marine resources, the advancement of marine energy technology, and the establishment of a marine circular economy system. Through on-site investigations, we aim to understand the needs of the maritime industry in Kaohsiung. We aspire to develop courses that offer hands-on experiences, immersing students directly into the harbor environment. This allows them to gain insights into marine leisure, marine resources, and marine technology. Generate learning and research topics based on identified needs and provide feedback to the teaching and research team at NKUST. This guidance aims to involve students in practical technical research, cultivating talent capable of solving real-world problems.

The teachers led the students on an in-depth visit to Yong'an Fishing Village in Kaohsiung City, utilizing the salt fields community in the Yong'an District as a practical learning environment. During the Japanese colonial period, the community in Yantian dedicated itself to developing the salt industry, which became a significant economic source. However, due to economic and technological developments, the industry gradually declined. The local cultural preservationists in the Yantian community feel the erosion of its traditions, leading to a gradual fading of its once prosperous past. Consequently, with the concerted efforts of the community, numerous murals have been painted in the Yantian community, portraying the entire process of salt production on a wall. This initiative aims to allow people to swiftly immerse themselves in the glory of the past. Additionally, the Yantian community possesses abundant wetland resources and serves as a vital habitat for migratory birds. The Hsinta Power Plant is also situated in this area. Residents of the Yantian community are dedicated to striking a balance between economic growth and ecological preservation, striving for a crucial equilibrium necessary for sustainable development. Through field investigations such as these, students from NKUST have begun to contemplate the societal challenge of harmonizing environmental and economic progress. They have devised a marketing plan aimed at promoting the tourism potential and local revitalization in Yong'an.

The Marine Resources Sustainable Development course group actually led students to conduct field investigations. Apart from visiting tourist harbors, they also walked through fishing villages, visited historical sites, understood local tourism features, learned about the stories and ways of life of predecessors, enabling students to catch a glimpse of the customs, folkways, and changes in life in the harbor and fishing villages. In addition to industry development, simultaneous promotion is also necessary. By systematically assessing their strengths and weaknesses and formulating corresponding strategies for improvement, teachers can enhance the local economic output by leveraging their professional knowledge and collaborating with local industries. Through field

exploration, they can train learners to identify issues and apply the knowledge acquired in class to solve real-world problems. This stands as a crucial goal of this course group.

AI Talent Cultivation

The goal is to cultivate foundational programming concepts in non-information field students, aiming to learn fundamental concepts of artificial intelligence and integrate them into real-life applications. The school has long been promoting the "AI Machine Learning Practical Course." In the 2021/2022 academic year, a total of 30 courses were integrated with intelligent tools to enhance students' logical and computational thinking. For non-computer science students, introductory and applied programming-related general education courses were designed to equip students with the ability to use and apply programming languages. As an example, the Digital Technology Microprogram in the 2021/2022 academic year offered a total of 34 core general education courses in programming and 14 general education microcredit courses, cultivating a total of 1,859 students. The university continues to enrich the curriculum aimed at cultivating students' proficiency in the application of AI tools. This effort enhances their future employability by leveraging their expertise in their respective fields.



▲ AI Machine Learning Practical Course

In addition, our university organizes a "New Teacher Workshop" for new teachers every semester. We invite experts on important administrative and teaching topics to give lectures, introduce departments, and facilitate feedback-sharing activities. Through these activities, we encourage teachers to engage in discussions and enhance their teaching skills through interactive learning. The course content includes topics such as "Wisdom in the Teaching and Research Practices of University Teachers," "Gender Equality and Sharing Experiences in Student Counseling Education," "The Way of Joyful Teaching: How to Be a Happy Teacher," and "Teaching Methodology Workshop." Our goal is to create a motivating and comfortable learning environment that inspires teachers' creativity and enthusiasm, ultimately contributing to the achievement of sustainable development goals.



3.2 Lifelong Sustainable Education

3.2.1 Continuing Education

The university is committed to promoting lifelong learning programs and collaborating with the government on relevant training initiatives. It provides educational and research resources to serve the community. Consequently, it offers various continuing education courses and training programs to both internal and external individuals, creating opportunities for learning and professional development.

In the 2021/2022 academic year, a total of 527 continuing education courses were offered, engaging a total of 8,723 participants. Among these, 95 courses focused on sustainability, covering training for indoor air quality maintenance and management personnel, professional training in toxic chemical substance management, food safety control systems, and the BIM course series.

In addition, there are 99 undergraduate credit classes offered as part of the regular curriculum; 144 master's credit classes offered as part of the regular curriculum; 11 master's credit classes offered as an independent program; 233 non-credit classes; and 30 classes offered by the Senior University, with 2 classes receiving subsidies from the Ministry of Education. We have continued our collaboration with the Kaohsiung City Government by implementing the Kaohsiung City Pipeline Excavation Project Management Personnel Certification Program. Additionally, we offer courses like the Citizens' Academy to promote sustainable development and lifelong learning.



In the 2021/2022 academic year, our university offered a total of 527 continuing education courses, with 95 of them related to sustainability. The number of participants reached 8,723.



● 3.2.2 Institute of Continuing Education*

In order to support national economic development and the growth of the business industry, our university has established the Affiliated Institute of Continuing Education. It provides opportunities for working professionals to pursue further education and lifelong learning. This initiative aims to continuously enhance professional knowledge and practical skills, improve the quality of the workforce, and meet the manpower needs of the local industry. The college has been established for 43 years since its founding in 1979. Through various changes and innovations, the faculty and staff have remained dedicated to their positions, working even during holidays, and fulfilling their social responsibilities. It has become the leading and sole national institution for continuing education in the southern region.

The Institute of Continuing Education of our university is a two-year program that follows the credit system based on academic years and semesters. Upon completion of the required credits for the courses, our university awards a bachelor's degree and issues a degree certificate. In terms of admission qualifications, individuals who have graduated from college or above, or possess equivalent academic qualifications, are eligible to apply. Additionally, those who graduated from high school or vocational school at least five years ago and have relevant work experience approved by the Ministry of Education in 2017 are also eligible to apply. Admission is granted upon successful application and a written review, with a minimum study period of two years. The teaching schedule primarily takes place on Saturdays and Sundays to accommodate working professionals and their educational needs. In terms of curriculum planning, each department combines the current needs of national economic development to formulate appropriate and suitable courses, while strengthening practical skills courses to enrich students' practical experience.

Currently, there are a total of 9 departmental programs in the fields of engineering, electrical engineering, management, and humanities. The curriculum is diverse, allowing for adaptive learning. Graduates benefit greatly from career advancement, certification exams, and pursuing further studies or studying abroad. Weekend classes implement the Ministry of Education's lifelong learning policy, promoting various adult sustainable development education programs to provide community members with effective learning opportunities and cultivate a sense of social responsibility in developing secondary expertise. The Institute of Continuing Education has achieved the following milestones in sustainable development projects:

- I. Implementation of Student Weekend Supplementary Program Regulations.
- II. Promote the concept of weekend in-service master's programs to enhance students' application willingness and increase their admission opportunities.
- III. Implement the method of earning bachelor's degree credits through weekend classes to offer professionals a pathway to develop secondary expertise.
- IV. The Continuing Education Department (Weekend Class) successfully expanded its recruitment sources, thereby increasing the school's enrollment rate.

Number of Graduates from Our Institute of Continuing Education in the Past 3 Years



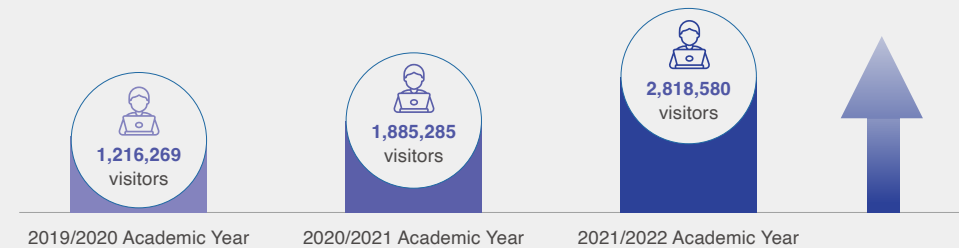
* Starting from the 2023/2024 academic year, our school has stopped enrolling students in the Institute of Continuing Education and restructured it into the Continuing Education Department, focusing on weekend classes within vocational programs.

3.2.3 Digital Courses

The university is actively developing online teaching systems, including the ZUVIO Cloud-based Real-time Interaction System and the Teaching Platform. ZUVIO provides online testing, feedback discussions, peer evaluations, and student management functions (such as grouping, attendance, and viewing learning statistics). Its usage rate has been increasing year by year. As of the end of the 2021/2022 academic year, more than one-fifth of courses have utilized ZUVIO for real-time feedback in classroom teaching. The average number of student interactions per week across the entire school exceeds 90,000. The university has also established a Learning Management System (LMS) called the "Teaching Platform" system. It provides functions such as teachers uploading digital teaching materials, students submitting assignments, online quizzes, interactive discussions on topics, and synchronous distance learning classrooms. Since its official launch in the second semester of the 2018/2019 academic year, the number of users has been increasing year by year. In the 2019/2020 academic year, there were 1,216,269 users, which grew to 1,885,285 users in the 2020/2021 academic year, and significantly increased to 2,818,580 users in the 2021/2022 academic year. The growth rate over the three years is 44% per year. During the COVID-19 pandemic, the resources invested in digital learning by our university have proven to be effective, serving as crucial support for online learning. This enabled many teachers and students who were unable to attend physical classes due to the pandemic to continue teaching and learning through digital technology.



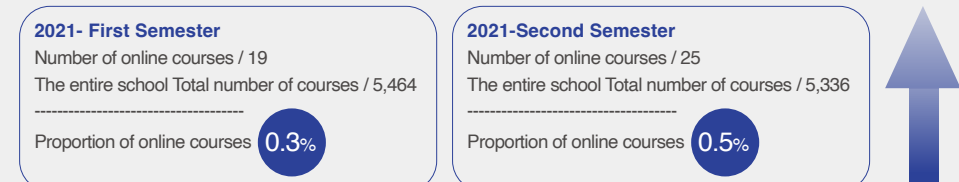
Number of users on the teaching platform in the past 3 years



MOOCs (Massive Open Online Courses) refer to large-scale open online courses that are made available to online learners through the internet. These courses are not only open to university students but also to individuals outside the university who can engage in online self-learning. NKUST continues to invest in the development of digital courses, ensuring high-quality offerings. In 2022, it was honored with the "National Open Education Excellent Course" by the MOOC Research Team, receiving the Special Excellence Award. Additionally, NKUST offered 12 courses through the MOOC platform, with a cumulative enrollment of 4,000 students, marking a 2.6-fold increase compared to the previous year. Video views grew threefold, reaching a total of 83,140 views. In the same year, the university also provided four courses on the ewant platform for autonomous learning by high school students. This initiative led 47 high schools to offer 81 specialized class sessions, with a total of 19,436 high school students enrolled. This effort aims to further disseminate professional knowledge and provide a self-learning channel for high school students under the new curriculum guidelines.

In addition, in 2022, we will continue to permit students to enroll in online courses taught by external instructors to fulfill their general education requirements. Moreover, we will take part in the SOS Summer Online School offered by National Yang Ming Chiao Tung University during the summer break. This program will enable incoming freshmen to engage in self-study during the summer and earn credits toward their general education requirements upon enrollment. For the year 2022, a total of 15 courses will be available, with 53 students participating in online self-study, fostering diverse learning opportunities for students.

Proportion of Online Courses in the 2021/2022 Academic Year at Our School



3.3 Campus Sustainability Practices

3.3.1 Sustainable Clubs

In 2022, a total of 156 clubs are active on campus, including academic, recreational, athletic, and service-oriented clubs. The club subsidy budget for 2022 is 3,880,000 yuan.

The university currently hosts nine sustainability-related clubs, all dedicated to fostering innovation and consistently promoting activities for sustainable development. These clubs include the Superleader Club, Diving Blue, Chongde Young Volunteer Club, Chun-Hui Club at the First Campus, Rotaract Club of Kaohsiung, Animal Protection Club, Potential Leadership Club, Esin Club, and Tzu Chi Youth Club. Taking our school's most representative sustainable club, Diving Blue, as an example, the club's mission is to promote water activities and preserve the marine environment, aligning with 'SDG 14: Life Below Water'. They have organized multiple beach cleaning and ocean-cleaning activities. For more information about student clubs, please refer to the website of the Office of Student Affairs' Extracurricular Activities Department of our school.



Office of Student Affairs'
Extracurricular Activities
Department of our school

▲ The Sustainable Club of Our School - Diving Blue

3.3.2 Sustainable-related activities

Sustainable development cannot be accomplished solely through individual efforts; instead, it demands a comprehensive grasp and awareness of its fundamental principles and significance. Achieving this necessitates talent cultivation, shifts in mindset, and effective promotion, gradually fostering an improved social atmosphere. Therefore, in recent years our university has not only encouraged faculty and staff to actively engage in university social responsibility initiatives and undertake government sustainability projects but has also organized a series of sustainability-related activities for student participation. Through these experiences and learning opportunities, students can grasp the essence of sustainable development.



Service Learning and Rural Service

When thinking about service education, the common perception often involves repetitive tasks, such as cleaning the campus environment. In order to truly integrate the spirit and principles of service learning into daily life, our school, in the planning of service education courses, specifically offers "Professional Service Education" and "Social Service Education." This allows students to engage in service activities that are closely aligned with society, encouraging them to reflect on how they can provide greater assistance to the environment in which they live.

"Professional Service Education" courses are designed based on the principles of integrating academic expertise with service education. These courses aim to empower students to apply their professional knowledge and skills in delivering services, while also nurturing and enhancing their capacity for empathy and care towards others. Moreover, these courses integrate the Sustainable Development Goals (SDGs) into their curriculum planning. For instance, following student training, the teacher devised and executed a survey to integrate and analyze air pollution data from NKUST's campus. Additionally, regular river patrols were conducted to record water quality data. In 2022, more than 200 students participated in these activities. Through data monitoring, we can study and enhance air quality, encourage collaborative energy-saving and carbon reduction initiatives among students and teachers, and thereby create a better environment. For instance, in the spacious first campus, public charity bicycles are frequently utilized. Professors from the Department of Mechatronics Engineering combine students' interests and expertise when designing the curriculum, offering guidance accordingly. In 2022, around 150 students actively participated in the bicycle maintenance project, collaborating to repair, enhance, and upkeep the public bicycles on campus. This involved integrating safety features like taillights, turn signals, and horns to promote student safety during rides. The curriculum encompassed fundamental training courses covering bicycle frames, body structure, manufacturing, repair, and construction, aiming to develop students' foundational bicycle repair skills on campus. This initiative not only encourages students to be attentive to user needs but also prompts them to consider societal requirements, showcasing their dedication to community service. It effectively integrates theoretical knowledge with practical application.



▲ Bicycle Maintenance Project

"Social Service Education" courses expect students to independently seek suitable NGOs/NPOs or organizations outside of school, or collaborate with vulnerable, non-profit organizations and beneficiaries of public services provided by the school. The courses also integrate the SDGs into the curriculum planning and organize matchmaking activities among external organizations, school administration, and academic units to conduct various supportive services for social welfare.

The organizations collaborating with our school include Hua Yuan Children's Tutoring Center, Hua Shan Social Welfare Foundation, Sun and Moon Light Community Care Service Center for Children and Youth, and the Revenue Service Office of Kaohsiung City. In 2022, a total of 49 students voluntarily registered for community service learning. One of the most notable activities involves the collaboration between the Department of Microelectronics Engineering Student Association and our university's Indigenous Resource Center to organize a public mural painting event in Laiyi Township. Through this initiative, students gain an understanding of the rural area's local conditions and create murals that reflect indigenous culture. Whether depicting the history of local flora and fauna or showcasing the stories of residents, this form of painting serves as a medium to illustrate various aspects of the community. It aims not only to attract more tourists to Laiyi Township and promote local tourism but also to educate everyone about the regio's rich history. The goal is to prompt self-reflection among students by engaging them in serving disadvantaged families, individuals, and vulnerable elderly. This approach allows students to foster and enhance their sense of compassion and humanistic care through service experiences, while also comprehending and nurturing a sense of responsibility in the cycle of giving and utilizing resources for societal welfare. The genuine essence of service learning will be incorporated into their daily lives and further advocated.



▲ Social Service Field Study



- 1. A total of 225 sustainable activities were organized by our school in 2022, including 201 on-campus events and 24 off-campus events, with a total participation of approximately 14,783 individuals.**
- 2. A total of 11 social service trips were organized by our school in 2022, involving 1,460 students and benefiting a total of 2,845 individuals.**
- 3. For more sustainable achievements of our university, please refer to our university's Sustainability Commitment website**



NKUST's
Sustainability
Commitment website

MIAOPU Project

In the second year of the MIAOPU Project, the "Marketing Sustainable Agriculture and Fisheries through Leisure and Exploration" initiative continues its focus on Zihguan District, renowned as Kaohsiung's Village of Rice and Fish. Leveraging the prior project experiences in Cieding and Zihguan, this phase aims to expand upon them. It centers on the distinctive local industry attributes: "Northern Zihguan Agriculture" and "Southern Zihguan Fisheries" serve as focal points and themes for implementation. "Technological Sustainability and Educational Tours" stand as the primary workshop themes. This project aligns with the objectives of SDG 4 - Quality Education, SDG 11 - Sustainable Cities and Communities, and SDG 12 - Responsible Consumption and Production. By leveraging the integration of administrative resources within the school and building upon our school's foundation in innovation and entrepreneurship education, we aim to implement interdisciplinary co-teaching courses as a core component of this project. This approach will emphasize the incorporation of design thinking into standard courses, guiding students in the practical application of the five-step design thinking process. It aims to cultivate their problem-solving abilities, life skills, and contribute to enhancing the competitiveness of sustainable agricultural and fishery development in the Zihguan District. In 2022, a total of 11 talent development workshops have been conducted, with 318 students enrolled. The participating students come from National Kaohsiung University of Science and Technology, National Cheng Kung University, National Kaohsiung Normal University, Shih Chien University, Shu-Te University, and Tung Fang Design University.

3.4 Sustainable Product Development

Our university "NKUST's Quality Products" - DK SHOP, opened in 2020, stands for Doctor Kaohsiung, abbreviated as DK. The store offers products developed, guided, and collaboratively created by teachers and students, serving as a platform for showcasing their work from teaching to internships. With a branded concept, DK SHOP has become the first branded store across all colleges and universities in Taiwan. It exhibits innovative products and souvenirs developed by teachers and students, highlighting the unique value of the NKUST brand. The store integrates "SDG 12 Responsible Consumption and Production" to promote sustainable management and efficient use of natural resources, significantly reducing waste generation. It disseminates the innovative research and development efforts of teachers and students campus-wide, encompassing food, beauty, and daily necessities. From production to process, all aspects are developed, collaborated on, and monitored by teachers and students. Products are adjusted seasonally and based on their place of origin, providing consumers with high-quality goods that are safe, dependable, and fresh.



Marine Collagen Series Products

Moisture Rose Water, Moisture Essence, Moisture Lotion, Moisture Cream, Moisture Mask, Moisture Firming Mask: Professor Mei-Ling Tsai from our Department of Seafood Science has developed an exclusive extraction technique to extract pure, natural, and highly refined marine collagen from tilapia skin. This marine collagen retains the characteristics of the original collagen protein and is beneficial for repairing damaged skin and activating skin cells. It truly represents a new generation of natural marine miracles.



▲ Marine Collagen Series Products - Moisture Rose Water (left), Moisture Essence (right)

Silkie Soup

The Silkie Soup, developed by the faculty and students of our university's Department of Seafood Science, is made solely with silkie chicken, Chinese medicinal herbs, salt, water, and the collagen protein extracted from fish scales, a product developed by the department. This unique blend produces a rich and flavorful broth. The soup does not contain any preservatives or food additives, ensuring a healthy and nourishing meal while relishing delicious cuisine. Using safe and edible processing techniques, the laboratory is able to remove hydroxyapatite (HA) from fish scales, resulting in crude protein with a content of over 80%. This makes it suitable as a high-quality collagen protein extraction material.



Fresh Shrimp

The characteristic of producing Fresh Shrimp is derived from the concept of a circular economy. Led by Associate Professor Ming-Chang Hung from the Graduate Institute of Aquaculture at our university, the team uses tofu residue waste as a material to cultivate probiotics. These probiotics replace the commonly used medications by fishermen to stabilize water quality, enabling controlled and reduced water changes. Consequently, high-quality and stable white shrimp are obtained. This improved farming method has also undergone multiple inspections by SGS and has been implemented in the Rende and Linbian shrimp farms in Tainan, ensuring a stable supply for DK SHOP. Among them, the aquaculture industry in Rende, Tainan, has successfully participated in the Ministry of Education's U-start Plan as young entrepreneurs.





3.5 Academic Performance

3.5.1 Research Projects and Papers on Sustainability

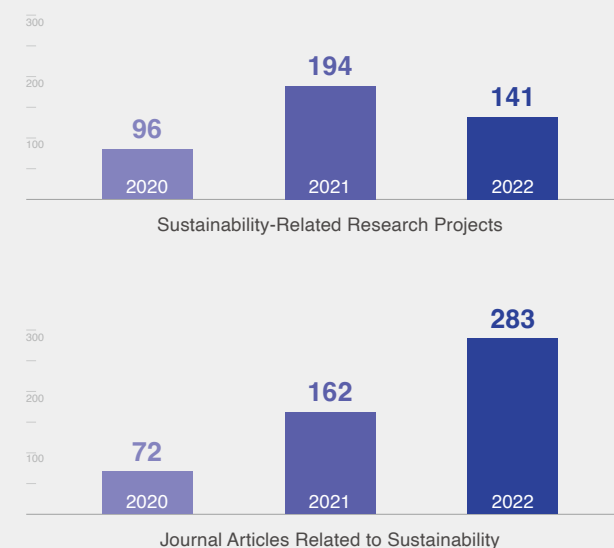
The global climate change is becoming increasingly severe, and sustainability has clearly emerged as a shared goal for global cooperation and future development. Through research on sustainability issues, efforts are being made to strike a balance between global development and environmental protection. In 2022, our university implemented a total of 260 research projects*, with 141 related to sustainability, accounting for approximately 54.23%. 133 faculty members led these sustainability-related research projects. A total of 958 journal articles were published by our faculty, with 286 of them related to sustainability issues, accounting for approximately 29.6%. This represents a growth of about 10.4% compared to last year (19.2% in 2021), demonstrating the ongoing development of our faculty's research in sustainability-related topics.

Statistics of Sustainable Research Projects and Journal Articles in 2022

College/Center	Total Number of Research Projects	Number of Sustainable-Related Research Projects	Total Number of Published Journal Papers	The Number of Published Journal Articles Related to Sustainability
College of Engineering	46	29	182	52
College of Intelligent Mechanical and Electrical Engineering	49	15	132	24
College of Electrical Engineering and Computer Science	56	27	181	50
College of Maritime	14	10	48	11
College of Hydrophere Science	21	14	232	97
Business Intelligence School	9	7	53	15
College of Management	39	23	76	16
College of Marine Commerce	13	9	34	15
College of Finance and Banking	0	0	0	0
College of Humanities and Social Sciences	4	1	3	1
College of Foreign Languages	5	2	4	0
College of General Education	3	3	10	2
Center for Innovation and Entrepreneurship Education	0	0	0	0
Office of Academic Affairs	1	1	3	0
Office of Physical Education	0	0	0	0
Total	260	141	958	283

* Statistical analysis of sustainable research projects and journal articles based on SDGs keywords in the Scopus database.

The Number of Sustainability-Related Research Projects and Journal Articles in the Past 3 Years





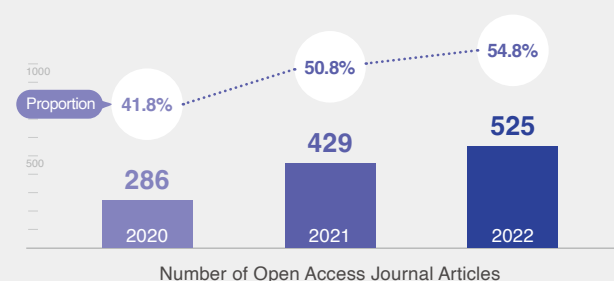
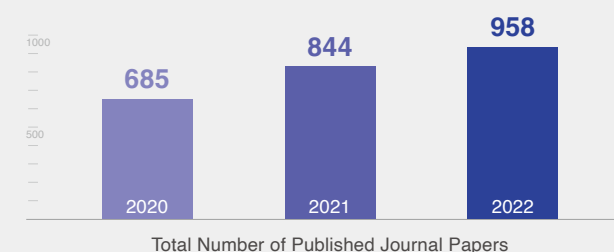
Open Access Journal Article

Open Access refers to making content freely available for readers, with the primary aim of ensuring that everyone has the right to access knowledge freely and without cost. In 2022, our school's faculty members published a total of 958 journal articles. Among them, 525 articles were published in Open Access journals, accounting for approximately 54.8% of the total. This signifies a 4% increase compared to 2021, emphasizing our school's dedication to sharing research findings and fostering an environment of academic knowledge freedom and fairness.

Open Access Journal Article Statistics for 2022

College/Center	Number of Published Journal Papers	Number of Open Access Journal Articles	Proportion of Open Access Journal Articles
College of Engineering	182	100	54.9%
College of Intelligent Mechanical and Electrical Engineering	132	65	49.2%
College of Electrical Engineering and Computer Science	181	130	71.8%
College of Maritime	48	35	72.9%
College of Hydrophere Science	232	92	39.7%
Business Intelligence School	53	32	60.4%
College of Management	76	42	55.3%
College of Marine Commerce	34	19	55.9%
College of Finance and Banking	0	0	0%
College of Humanities and Social Sciences	3	1	33.3%
College of Foreign Languages	4	1	25.0%
College of General Education	10	6	60.0%
Center for Innovation and Entrepreneurship Education	0	0	0%
Office of Academic Affairs	3	2	66.7%
Office of Physical Education	0	0	0%
Total	958	525	54.8%

Number of Open Access Journal Articles in the Past 3 Years





3.5.2 Collaborative Sustainable Industry Academia Projects

The university is committed to promoting sustainable development and establishing close industry-academia partnerships with businesses across various sectors. In addition to various subsidies from government agencies for industry-academia cooperation, the close collaboration with businesses has enabled our university to accumulate a wealth of cooperative experience and possess strong research and development service capabilities. We have not only achieved outstanding results in the field of research but also actively engaged in applying industrial technology to promote sustainable development in the region. In 2022, there were 125 non-governmental organization industry-academia collaboration projects related to sustainability, totaling NT\$205,317,377. The following is an explanation of the sustainable industry-academia collaboration at our university:



1. Collaboration in Diverse Fields

The areas of sustainable development that our school focuses on include smart manufacturing, intelligent commerce, marine technology, and technology and cultural creativity. These fields not only represent future trends but also offer numerous opportunities to enhance existing technologies and processes while minimizing negative environmental impacts. The school is committed to fostering more innovation and sustainability in these areas through collaborations with businesses.

2. Extensive Collaboration Project

In 2022, our university collaborated with businesses to undertake various projects related to sustainable development, including green energy, environmental protection, safety, pollution issues, education, and aquaculture. This collaboration not only contributes to the advancement of academic research but also has a positive impact on the regional economy and social development. For example, the implementation of the Kaohsiung Port New Dredging Sediment Ocean Disposal Monitoring Program is conducted to monitor and assess the environmental impact of ocean disposal. Furthermore, participation in a project to enhance the aquaculture techniques of fishermen in Mailiao aims at supporting the sustainable development of the local fishing industry.

3. Green Energy and Environmental Protection

In the 2022 collaboration plan, special attention was given to the green energy and environmental protection sectors. These projects include ecological surveys of the marine area, as well as research and analysis on the standards for harmonics control in power grid integration. Through these initiatives, the school is committed to improving energy efficiency, reducing energy waste, and simultaneously protecting and preserving the environmental ecological balance.

4. Sustainable Development and Education

Sustainable development and education-related projects are also our main focus. These initiatives aim to enhance community awareness of sustainable development and promote sustainable education. Meanwhile, our university also encourages companies to practice corporate governance and corporate social responsibility to ensure the sustainability of their business activities.

5. Application of Marine Science and Technology

Marine features are one of the important development areas of our school. We actively participate in projects related to aquaculture and strive to enhance farming techniques to produce higher quality aquatic products. Simultaneously, research is also being conducted on the application of technology to ensure the sustainability of the marine environment and resources.

6. Industry-Academia Collaboration and Intelligentization

The university not only participates in research projects but also actively engages in industry-academia collaboration to promote technological research and innovation. It assists companies in enhancing product process safety management and provides technical services. Furthermore, we are committed to developing environmental sensing technology and applying smart manufacturing and artificial intelligence to enhance industrial development and competitiveness.

7. Long-term Partnership Relationship

Currently, we have established long-term partnerships with several foundations, including the Industrial Technology Research Institute, Institute for Information Industry, and the Metal Industries Research & Development Centre. These partnerships contribute to the sharing and integration of resources between academia and industries, fostering greater innovation and development.

8. Industry-Academia Collaboration Platform

To enhance the collaboration efficiency between teachers and industries, our university has established an industry-academia collaboration platform. The platform provides information on teachers' research and development achievements, industry trend analysis, and introductions to school-level research centers. It also incorporates a membership mechanism to facilitate a quick understanding of the research achievements and professional fields of teachers at our university, fostering more industry-academia collaborations.



Our university continues to make efforts in the field of sustainable development through industry-academia collaboration. The school not only takes a leading role in research and technological innovation but also actively engages in addressing real-world societal issues, promoting the development of the local economy. We will continue to dedicate ourselves to sustainable industry-academia collaboration, making every effort to contribute to the improvement of society and the environment.



Collaborating with ASE Group to support local education

The Department of Marine Environmental Engineering at our university has collaborated with the ASE Environmental Protection and Sustainability Foundation to organize four sessions of "The Ecological and Cultural Workshop of Houjin River." The activities encompass indoor environmental education lectures, interactive board games, DIY water quality testing, and outdoor field trips, enabling community members to gain a comprehensive understanding of the cultural environment, natural ecology, pollution prevention and control, and conservation efforts in the Houjin River Basin. This initiative aims to establish an interactive space between people and the natural environment of the Houjin River. Through a collaborative model involving local businesses and academic institutions, the ASE Group and the National Kaohsiung University of Science and Technology are working together to promote local education.



▲ The school collaborates with the ASE Group to organize the Houjin River Cultural and Ecological Study Workshop.

The ASE Group has taken the initiative to demonstrate its corporate social responsibility to society and the community. It has implemented actions that promote social and environmental care, aiming to foster sustainable development for both society and the business. These efforts have yielded positive results, with an average overall satisfaction rate of 97.75% across four cycles of activity planning. During the event, the public often strongly suggested that they hope the regular Houjin River walking tour activities can continue because the cultural and ecological values of Houjin River are worth showcasing to more people. Moreover, the cultural heritage of the Houjin River is gradually disappearing, and there should be someone to carry it forward. Additionally, the study has completed the preliminary outline of the Houjin River cultural history and environmental education curriculum.

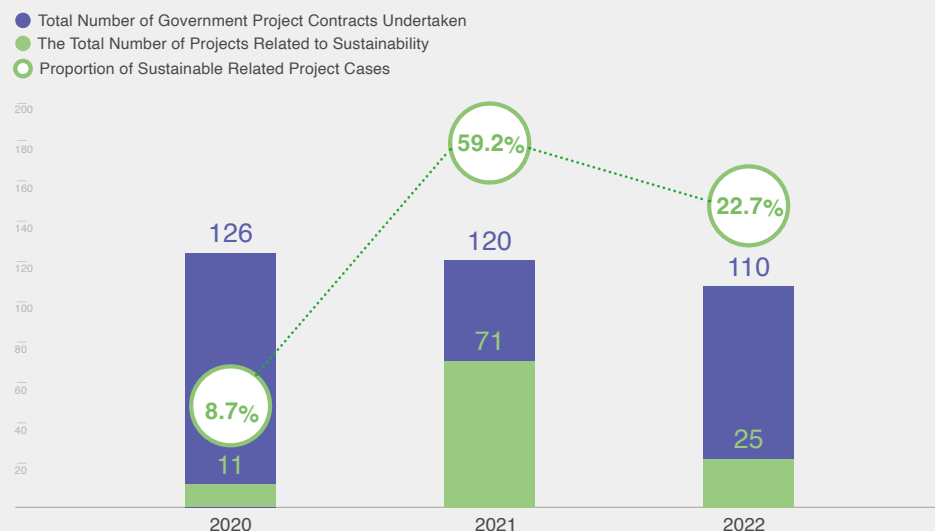


In 2022, there were 125 non-governmental organization industry-academia collaboration projects related to sustainability, totaling NT\$205,317,377.

3.5.3 Sustainable Government Collaboration Projects

In 2022, our university undertook a total of 110 industry-academia collaboration projects with government agencies, among which 25 were related to sustainability, amounting to a total of NT\$305,511,894. The project primarily addresses the issues of SDG 4 Quality Education, SDG 13 Climate Action, and SDG 14 Conservation of Marine Ecosystem and related issues.

Number of government projects undertaken by faculty in the past 3 years



In terms of SDG 4 - Quality Education, there are plans for the Open Waters Sports Education Center Project, the 2022 Senior High School Internship Program, and the Promotion of Education and Continuing Vocational Education Enhancement Plan. Regarding SDG 14 - Conservation of Marine Ecosystems, multiple projects include education and training programs for the removal of underwater nets, the establishment of a chemical pollution response mechanism, and a human resource training program for marine chemicals in 2022. Additionally, there are research initiatives focusing on the assessment of Indian Ocean shark fishery resources and non-detrimental risk assessment (NDFs), the 2022 Kaohsiung Marine Environment Monitoring Program, and the investigation and production of an ecological guidebook for coral communities in the South Penghu Marine National Park in Penghu. Addressing SDG 13 - Climate Change, there are plans for the development of adaptation measures for fisheries production in response to climate change within our country (Phase III), along with projects related to tidal current forecasting and the processing of marine meteorological data in 2022.

Open Water Sports Education Center Project

SDGs 4 - Quality Education



This project aims to enhance students' fundamental knowledge and education in marine activities, while also promoting water sports safety.. In response to the national policy of "Salute to the Sea," the government encourages the public to get to know the sea, "approach the sea, enter the sea, and clean the sea." Simultaneously, it upholds the five policy pillars of openness, transparency, service, education, and responsibility. The educational aspect of this policy aims to deepen ocean education and popularize ocean experiences.

In line with the Ministry of Education's "Open Water Sports Education Center Promotes Demonstration Program," the goal is to enhance marine knowledge and skill education among students in our country. This objective will be accomplished through subsidy programs such as "Swimming or Aquatic Sports Observation and Discussion," "Regional Aquatic Sports Experience Promotion Activities," and "Enhancement and Renewal of Aquatic Sports Experience Sites and Equipment." By utilizing open water venues, experiential activities will be organized to promote aquatic sports among students at all levels of schools. Additionally, there will be a focus on water safety education and self-rescue abilities, fostering students' familiarity with and capability to respond to water environments like the ocean and lakes. This initiative aims to encourage students to choose water sports as a lifelong activity.

In 2022, a total of 52 water sports experience promotion activities were conducted in 16 prospective venues nationwide. These initiatives aimed to convey the significance of open water safety to a total of 10,000 participants across the country. The programs included safety checklists for water activities and highlighted safety measures to be implemented 30 minutes before entering the water.

To effectively enhance students' experience in water activities and their understanding of water safety education, the regional centers invited school administrators and teachers from various levels of schools within the region to jointly organize 13 leadership experience camps. In the satellite school integration aspect, the primary consideration was to aid schools in effectively promoting activities and fostering the ability to independently organize and develop water sports initiatives. This year, we have also established regional centers and partnered with schools to organize water activities. Through peer-to-peer cooperation, information exchange, and resource sharing, we have established a comprehensive collaborative mechanism to expand water sports education.



▲ Ministry of Education's Water Sports Program Application Platform



▲ Ministry of Education's Open Water Sports Education Center Fan Page



2022 Marine Chemical Pollution Response Mechanism Assessment and Human Resource Training Plan

SDGs 14 - Life Below Water



Taiwan's unique geographical location, surrounded by the sea on all sides and situated in the main shipping route of Southeast Asia, has resulted in a high frequency of several types of vessels navigating the waters around Taiwan due to the flourishing international trade and industrial development demands. In contrast, the risk of marine pollution has also increased. Any accident involving a vessel could potentially lead to significant oil or chemical pollution in the waters and along the coast of Taiwan. Therefore, the Ocean Conservation Administration of the Ocean Affairs Council has commissioned our university's Coastal Water and Environment Center to conduct the Assessment and Establishment of Marine Chemical Pollution Response Mechanism and Personnel Training Plan. By referencing and analyzing established emergency regulations and mechanisms in foreign countries, specific recommendations will be offered for the response mechanism to marine chemical pollution in our country. Standard procedures will be established encompassing prevention, preparedness, mitigation, response, and recovery phases, aimed at bolstering capabilities to address marine chemical leakage and minimizing the impact of such disasters.

In addition to establishing an emergency response mechanism to aid the Ocean Conservation Administration of the Ocean Affairs Council in swiftly, comprehensively, and systematically understanding potential impact areas and the scope of marine pollution incidents, facilitating rapid response by disaster prevention units, we also support the decision-making of the Ocean Conservation Administration. This alignment involves policy guidance and assistance in promoting marine conservation efforts to enhance public awareness of marine conservation.

This project aims to analyze prevention and emergency response techniques for marine chemical pollution from foreign countries. By combining the team's prior experience in responding to marine pollutants, we will conduct an analysis of pertinent regulations and management mechanisms related to chemical pollution response in countries like Canada, Japan, and Germany. This analysis will facilitate the planning of the management system architecture, operational model, and functions required to prepare our country's chemical transport vessels for emergency response. Inventory of chemical spill response materials in our country's maritime areas to enhance our ability to respond to chemical pollution incidents; analysis of the risk characteristics of chemical substances in major port waters in our country, and proposals for establishing a management mechanism to respond to chemical pollution spills and diffusion in maritime areas.

A chemical leak emergency response manual and emergency response card will be developed for the 14 high-risk physically hazardous chemicals of the Executive Yuan's Office of Homeland Security. Organize 1 session of training for marine chemical pollution response; collect information from 5 overseas institutions specializing in marine chemical pollution response training, and evaluate the characteristics and course details of each training institution. Plan training content for international maritime organization certification in marine pollution emergency response based on this assessment, and coordinate and communicate with overseas training units according to institutional requirements.

2022 Marine Conservation Wildlife Education and Advocacy Program

SDGs 14 - Life Below Water



The Kaohsiung City Government's Marine Bureau aims to enhance public awareness of marine wildlife and increase public attention to marine conservation issues. By conducting educational outreach programs, we aim to emphasize the importance of the United Nations Sustainable Development Goal of Conserving and Sustaining Marine Resources' and actively promote marine conservation education activities.

The Department of Fisheries Technology and Management at our university has been tasked by the Kaohsiung City Government's Marine Bureau to organize the 2022 "Marine Conservation Wildlife Education and Advocacy Program." There will be a total of 10 sessions with the participation of 366 individuals (161 adults and 205 children). The curriculum is designed around two themes: "Exploring the Predators of the Deep - Sharks" and "Getting to Know the Intelligent and Friendly Ocean Companions - Whales, Dolphins, and Sea Turtles." These themes introduce families to the world of the ocean through easily understandable and interesting marine creatures. The course is designed with lively and interactive explanations to provide a clear and in-depth knowledge-sharing experience. Throughout the course, there are interactive quizzes, creative DIY activities, and a tabletop game experience called "Ocean Defense Battle" to enrich the content. The course on "Sharks" introduces the eight major shark families and the protected shark species in various oceans, guiding people to delve deeper into the intriguing yet frightening world of sharks. As for the course on "Whales, Dolphins, and Sea Turtles," it explains various commonly found whale, dolphin, and sea turtle species in Taiwan, educating the public about the various ecological crises currently faced by marine creatures.

The promotional courses aim to introduce marine education to young children from an early age, fostering an appreciation for and understanding of the ocean and its wildlife. We encourage the public to conserve marine organisms and protect marine resources. This responsibility belongs to everyone and should not be delayed. Let us start by making changes in our daily routines.



▲ Marine Conservation Wildlife Education and Advocacy Program Poster

Research on Dynamic Monitoring and Response Analysis of International Maritime Conventions SDGs 16 - Peace and Justice Strong Institutions



Given its geographical environment and shipping capabilities, our country is an integral part of the global maritime network and ranks as one of the world's major maritime nations. However, due to Taiwan's exclusion from membership in the International Maritime Organization (IMO) and its related meetings, Taiwan often encounters challenges in accessing the most recent maritime conventions and regulatory information, which are typically more readily available to other recognized nations. Consequently, participation in regional organizations and international cooperation is frequently impeded. The understanding and implementation of IMO-related conventions and measures are particularly crucial for maintaining our country's national existence and international shipping capabilities.

Based on this, the purpose of this study is to collect and analyze the dynamic information regarding IMO-related conventions, regulations, and meeting agendas. Additionally, it aims to explore the adoption and domestication procedures of IMO-related conventions and regulations by major maritime nations internationally, intending to provide a reference for our country. Secondly, this study plans to convene a symposium with experts and scholars to gather their insights regarding the implications and advantages as well as disadvantages of adopting IMO conventions and regulations domestically. In addition, this study intends to investigate, inventory, and research the trends and dynamics of maritime issues discussed at major IMO conferences. It will also examine the discrepancies between international maritime conventions and domestic aviation, port, and regulatory laws. By actively participating in the regular meetings of the International Maritime Convention Response Working Group of the Ministry of Transportation and Communications' Maritime Port Bureau, it will review whether the regulations of various ports and harbors comply with the relevant provisions of the IMO international maritime conventions, and provide timely assistance to the authorities in the domestic implementation and related auditing operations of international maritime conventions.

This report will analyze the main meeting agenda and meeting outcomes. This report compiles 85 news articles from the IMO between January and September, covering key trends in international maritime affairs. The main topics can be divided into seven categories: maritime safety, global events, marine environmental protection, maritime technology and development, data digitization, gender equality and empowerment, and concerns and assistance for Least Developed Countries (LDCs) and Small Island Developing States (SIDs). And summarizing information from the IMO Media Center, including speeches by the IMO Secretary-General, Hot

Topics, and other content, there are a total of 108 items. The summary identifies the following trends: environmental issues, digitization of shipping information, gender equality, and the challenge of unequal development that can be addressed through technical cooperation and assistance. The aim is to grasp the trends and dynamics of international maritime issues through the aforementioned research.

To align our country's maritime and port policies with international standards, we are organizing the "International Maritime Convention Dynamics Grasp and Response Analysis Seminar" on August 30, 2022. We have invited various international classification societies in Taiwan to share insights on international maritime conventions and the latest issues. Representatives from government, business, academia, and industry will collaborate, aiming to exchange ideas for future policy development. The seminar sparked lively discussions on the project's alignment with SDG 16, emphasizing on Peace and Justice, and ensuring public access to information concerning relevant maritime conventions. Additionally, it shed light on the latest maritime issues and trends of international maritime organizations, offering valuable insights for the future development of our country's ports.

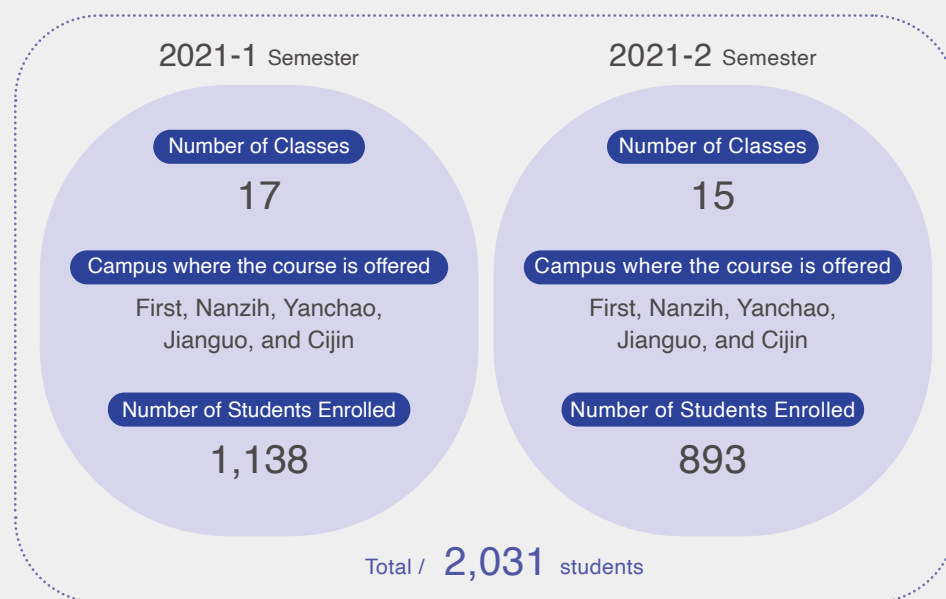


▲ The attendees of the International Maritime Convention Dynamics Grasp and Response Analysis Seminar

3.5.4 Marine Characteristic Research and Collaboration Plan

The 14th Sustainable Development Goal of the United Nations focuses on conserving and sustainably using the oceans, seas, and marine resources. In recent years, our university has taken active steps to promote marine education. This includes providing general education courses on the ocean, hosting seminars related to the marine industry, and organizing activities to deepen students' knowledge of the ocean and increase awareness about marine-related concerns. These endeavors aim to instill a sense of responsibility towards the ocean and encourage the sustainable development and utilization of marine resources.

Starting from the second semester of the 2020/2021 academic year, 10 themed teaching methods (such as marine environment, port logistics, and aquaculture enhancement) have been adopted for each class. The course offerings for the 2021/2022 academic year are as follows:



In the 2021/2022 academic year, a total of 32 classes of marine science and technology exploration general education courses were offered, with a total enrollment of 2,031 students.

Ocean and Sustainability Seminar

Through the lecturer of the Marine General Education Course, we organized special lectures on marine features and sustainability, inviting expert Wei-ting, Lin to share issues related to marine tourism and conservation. By incorporating marine attributes, the education sector has deeply embedded itself in the aviation and port industries. The Department of Shipping and Transportation Management has conducted seminars featuring shipping and logistics experts, inviting industry professionals to engage and share insights with students. During one such session, Vice President Ting Han Li from SK Wynnery Offshore Marine CO. LTD was invited to enlighten students on offshore wind power and its future prospects. The utilization of offshore wind power is rapidly expanding globally. Many nations aim to achieve net-zero carbon emissions by 2050, and Taiwan is actively participating in this initiative. The aspiration is to establish a safe, stable, efficient, and clean energy supply system, taking into account energy security, environmental sustainability, and the green economy. Simultaneously, various suggestions have been put forward to steer the shipping industry toward a more intelligent and environmentally conscious direction.



▲ The Department of Shipping and Transportation Management organized a seminar on shipping logistics, inviting Vice President Ting Han Li to share insights.

Marine Education Intelligence Activities

Ocean education holds significant importance at our school. Teachers specializing in marine studies orchestrate fishery education and marine cultural experience activities. These hands-on and outdoor teaching approaches enable students to learn through practical engagement and encourage their active involvement.



Throughout the 2021/2022 academic year, a total of 61 ocean education activities were conducted, engaging a collective of 4,466 participants.

Water Safety Education Course

Manager Li Yan-Yi, from the Office of Marine Science and Technology at our university, collaborated with Ocean Dreamer Co., Ltd. to organize a water safety education course named Houbi Lian Sea Qu. The course featured a SUP paddle boarding activity that allowed participants to engage closely with the ocean. Professional guides were present to provide insights into marine knowledge, enhancing participants' appreciation for the environment's beauty. Moreover, a beach cleaning activity was conducted to emphasize the significance of environmental and ecological conservation.



Houbi Lian Sea Qu Water Safety Education Course



Chiayi City Science 168 Education Expo - Finding Nemo

Fish Science Education

Ms. Li Yizhen, a professor from the Department of Aquatic Food Science at our university, participated in the Undersea Mobilization event held by the Chiayi City Government as part of the Chiayi City Science 168 Education Expo. Taiwan is surrounded by rich marine ecosystems and abundant biological resources. Nevertheless, the significance of the ocean has often been underestimated, leading to a general lack of awareness and understanding of marine life and ecology. This project aims to integrate marine biotoxins by incorporating characters and backgrounds from the popular animated film "Finding Nemo" from the past decade. It will encourage students to create science teaching materials and lesson plans related to toxic marine organisms. Moreover, the stunning images of fish and shellfish are compiled into an information folder and badge for the Fish Science Education Promotion initiative. These materials aim to facilitate educational outreach efforts and develop interactive games, enhancing student engagement.

Marine Specialty Research

The university is developing key research areas in the field of ocean with a focus on sustainable development and cross-campus highlights. Through project funding, the research will center around interdisciplinary expertise, Sustainable Development Goals (SDGs 14), ocean-related research pertaining to SDGs, and ESG-related ocean topics. This will deepen exploration into marine technology, technological development, and the social and humanistic aspects. By leveraging research outcomes, it aims to understand industry development needs and integrate technology and application trends. Each project's performance indicators align with the key benefits of research and industry. In 2022, 77 papers were published in SSCI journals with a focus on marine specialties, along with 23 derived projects from the National Science and Technology Council and 35 industry-academia collaboration projects. In the sustainable development plan, a teacher has proposed a project titled "Treatment of Hydrophobic Organic Pollutants in Marine Sediments through the Combination of Magnetic Seaweed Biochar and Advanced Oxidation." Understanding the degradation mechanism of hydrophobic organic pollutants in sediments helps evaluate the treatment and reuse of sediments, achieving environmental sustainability and accomplishing the goal of sustainable marine resources.

As part of the inter-campus highlight transmission project, teachers from various departments are collaborating on developing a disposable chip-based system to sense dissolved oxygen for live fish transportation. This research aims to reduce mortality rates during fish transportation. The system comprises disposable chips for detecting dissolved oxygen, water temperature, and salinity, along with control and display modules, and a flow control module. It enables the monitoring and regulation of dissolved oxygen levels in the fish transport vehicle's water tank, ensuring the fish's survival. Notable design features of this system include no calibration requirements, cost-effective disposable chips, plug-and-play functionality, and ease of operation.



Record of Research on Marine Sediments



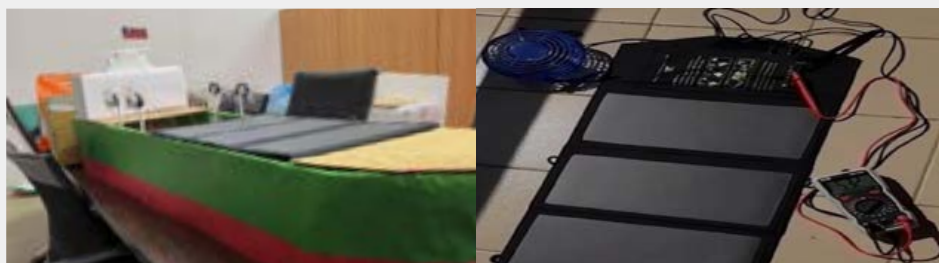
Development of a Disposable Chip-Based Dissolved Oxygen Sensing System for Live Fish Transportation



In 2022, 77 papers were published in SSCI journals with a focus on marine specialties, along with 23 derived projects from the National Science and Technology Council and 35 industry-academia collaboration projects.

Student Marine Specialized Research Project

With regards to students, we coordinate specialized research projects on marine topics within the school. We have approved funding for 13 cases to encourage students from various campuses and departments to delve into marine issues. These projects are intended to enhance the depth of exploration into marine topics through the research process. In response to the government's energy transition initiatives and technological research and development, a student team has proposed a study on "Electric Propulsion Research for Hybrid Green Energy Ships." This study aims to integrate the ship's power generation device into the power system to supply the required energy for hybrid power propulsion. The power sources include wind turbines and high-power solar panels, generating green energy stored within the propulsion system. This innovation enables the ship to acquire sufficient power for propulsion, thereby reducing pollution emissions from traditional diesel engines and mitigating marine pollution. Consequently, it contributes to the global initiative for achieving net-zero carbon emissions.



▲ Research on the Electric Propulsion of Green Energy Hybrid Power for Ships being conducted by students.

In addition to providing funding for students engaged in marine research on campus, our university actively encourages faculty members to guide students in applying for research projects funded by the Ocean Affairs Council, aimed at college and university students. In 2022, our institution secured funding for a total of 6 projects, ranking first in Taiwan both in the number of approved projects and the amount of funding received. Among these projects was 'Research on the Biological Toxicity of Plastic Microplastics and Plastic Reduction Education,' proposed by Tsai-Hui Tsai, a student from the Department of Seafood Science (under the supervision of Professor Shu-Ling Hsieh). This project received the Excellent Achievement Award in the 2022 Annual Project Report by the Ocean Affairs Council. Our university remains committed to fostering interdisciplinary research and nurturing innovative talents, thereby promoting sustainable development in the marine industry, environment, technology, and human resources.



In 2022, our institution received subsidies from the Ocean Affairs Council for six student research projects at the tertiary education level, ranking first in Taiwan both in the number of approved projects and the amount of funding received.

Moreover, our university is actively implementing the University Social Responsibility Program - "Good Fish Next Door Project." This initiative focuses on breeding grouper, four finger threadfin, and white shrimp in Jiadong Township and Linbian Township, Pingtung County, serving as a model fishery. The primary objective of this program is to tackle the ongoing challenges encountered by fishing villages, aligning with international trends and national policies such as the "2050 Net Zero Emissions," "Food Safety," and "Food and Agriculture Education." It delineates four key strategies: Friendly Intelligent Aquaculture and Energy Transformation, Aquatic Food Safety and Value-added Applications, Promotion of Fishing Village Culture Marketing and Food Education, and International Social Practice Linkages. These strategies amalgamate industry-government-academia resources, fostering cross-border exchanges and collaboration, particularly with Japan. The program fosters joint learning among domestic and foreign students, nurturing individuals equipped with execution capabilities and international connections. This aligns with the university's commitment to social responsibility practices, in line with SDG 12 - Responsible Production and Consumption, and SDG 17 - Strengthening means of implementation and revitalizing the Global Partnership for Sustainable Development.

The student teams within the marine incubation program collaborate closely with incubated companies, offering guidance in the development of new products focused on sustainability. This initiative aims to nurture student teams and assist companies in creating innovative products that address sustainability concerns, thereby advancing the dissemination of marine sustainability education. For instance, it encourages student teams to explore novel applications of marine materials and devise creative approaches for reuse. This involves processes such as extracting calcium from oyster shells for use in various products, converting marine plastics into recyclable clothing, and harnessing chitosan derived from shrimp shells for the development of health-related items. By empowering students to autonomously select their topics, this program stimulates their critical thinking and fosters teamwork, ultimately nurturing their innovation and collaboration skills.



Restoration activities

The student team has received the highest subsidy from the Ministry of Education's Plan for Innovation and Entrepreneurship in Taiwan due to their expertise in coral breeding. Utilizing patented technology, they offer quantifiable coral products applicable in emerging fields, catering to market demands and paving the way for a new milestone in future sustainable blue carbon.

Maritime Professional Training and Offshore Wind Power Talent Development

The university actively contributes to promoting coastal tourism, recreational activities, and various marine industries aligned with the government's initiatives. It has initiated training programs tailored for commercial powerboat operators, offering favorable opportunities to students keen on acquiring professional licenses. The university provides a specialized training environment and equipment, aligning with the national marine development policy. In 2019, the university procured a new powerboat known as NKUST Training Vessel-2. Subsequently, it conducted two sessions of commercial powerboat instructor training and ten sessions of student training, involving a total of 154 participants. These training sessions welcomed students and faculty from the university's construction, first, and Yanchao campuses, situated away from the coast. Looking ahead, the university plans to launch two additional phases of commercial powerboat training programs by the end of 2024. These programs aim to offer students from other campuses exposure to certification courses and insights into the university's marine attributes, concurrently aiding them in obtaining professional licenses.

In response to our country's renewable energy development policies, we are actively promoting an offshore wind power workforce training program. We have encouraged our schoolteachers to participate in training at overseas wind power training centers to acquire GWO BST and GWO BTT training certificates. This initiative aims to develop our instructors as qualified trainers within our school. The wind power industry talent GWO BST training began in 2020, followed by the official launch of the GWO BTT training in 2021, creating diverse employment opportunities for our students. At present, we have completed a total of four GWO-BST training sessions for internal teachers and students, with 48 participants in Class 4 and 60 participants in Class 5. Moreover, we have conducted four GWO-BTT training sessions, with 36 participants in Class 4 and 48 participants in Class 5.

3.6 Teaching Quality Assurance

The school emphasizes the collection of formative and process-oriented teaching feedback data, which involves mid-term and end-of-term teaching feedback surveys. The mid-term teaching feedback survey incorporates self-reflection questions for students, aiming to comprehend their learning progress and detect any challenges they might face during the learning process. This information is utilized to empower teachers to adapt their teaching content and methods accordingly. The end-of-term teaching feedback survey aims to assess the effectiveness of the teacher's instruction, providing valuable insights to help teachers enhance the quality of their teaching. The results of the teaching satisfaction survey for the past three academic years are presented in the table below. The average satisfaction rating stands at 4.5 out of 5, with a response rate exceeding 75% for all surveys:

近 3 學年教學意見調查結果

	2020 First Semester	2020 Second Semester	2021 First Semester	2021 Second Semester	2022 First Semester	2022 Second Semester
Total Number of Courses	5,069	4,885	5,208	4,924	5,038	4,807
Average Satisfaction Score (maybe)	4.4	4.5	4.5	4.5	4.5	4.5
Response Rate	81%	82%	81%	79%	75%	75%

Education represents a commitment spanning centuries in nurturing individuals. To bolster teaching quality assurance, our school consistently refines teaching methodologies and implements a series of subsidy measures and training support programs to elevate teaching standards. In 2022, a total of 31 training sessions related to teaching were conducted, encompassing diverse innovative teaching activities such as digital learning, teaching practice enhancement, and the utilization of AI tools. The participation of teachers reached 2,109, signifying a strong willingness among the majority of educators to engage in educational reform initiatives. The following are projects aimed at promoting innovative teaching and learning:

Teacher Professional Community

A group of teachers with shared beliefs, visions, or goals, collaboratively engage in inquiry and problem-solving, continuously dedicated to enhancing students' learning outcomes. NKUST encourages teachers to establish four types of teacher communities: "Teaching Growth," "Practical Knowledge and Skills," "Thematic Approach," and "Teaching First Aid Station." Through regular meetings, sharing of teacher experiences, and collaborative activities, these communities foster interaction, exchange of experiences, and enhancement of practical teaching expertise among educators. Innovative teaching methods are employed to elevate teaching quality and improve student learning outcomes. An annual achievement exhibition serves as a platform for mutual learning and improvement. In 2022, a total of 35 projects were funded, resulting in the development of 23 interdisciplinary teaching materials or lesson plans, the design of 46 innovative teaching methods or instructional models, the proposal of 22 Ministry of Education teaching practice research program, and the facilitation of 40 student internships or job opportunities.

Innovative Teaching

The school has been implementing teaching innovation for many years. Starting from the 107-2 semester, an integrated promotion method has been introduced. The innovative teaching method at NKUST serves as a prelude to the internal support program for teachers applying for the Ministry of Education's teaching practice research program. It involves teachers using innovative teaching methods that integrate theory and practice to design creative course content, aimed at resolving various teaching challenges and enhancing students' interest, motivation, and learning effectiveness. A total of 78 project applications were submitted for the year 2022. Among these, 71 were approved and received funding, resulting in a pass rate of 91%.



Problem-Based Learning (PBL)

One of the core values of higher education is autonomous learning, emphasizing critical thinking over passive acceptance, enabling students to learn adaptively and develop the ability to identify problems, seek information, and solve issues. The school encourages teachers to enrich the teaching environment by engaging in capacity-building workshops and teacher communities. This initiative aids in enhancing teachers' knowledge and motivates them to apply for the development of Problem-Based Learning (PBL) courses. Upon the completion of subsidized courses, the Teaching Development Center arranges a presentation event and selects exemplary cases for rewards. Additionally, it provides guidance and encouragement for subsidized teachers to submit educational research proposals to the Ministry of Education subsequent to completing the subsidized courses.

The university has long been advocating for student-centered Problem-Based Learning (PBL) courses. To encourage teachers to enhance their teaching methodologies, establish unique teaching characteristics, and elevate teaching quality leading to improved student learning outcomes, a move was made in 2021. Considering the university's curriculum nature and the spirit of fostering student-centered teaching approaches, project-based learning (PBL) courses were incorporated into the scope of subsidies, integrating them with problem-based and project-based learning (PBL) courses. Subsidies are categorized into problem-based learning and project-based learning. In 2022, a total of 58 applications were submitted, out of which 51 were approved and received subsidies, resulting in an approval rate of 87.93%. Presently, the university has seen a 13.02% accumulation of teachers using PBL in their course teachings.

Digital Educational Multimedia

In 2022, our school initiated the course subsidy "Integration of Digital Audiovisual Materials into the Curriculum" program for the first time. This initiative aims to empower teachers to understand the trend of digital learning and effectively utilize various online tools and teaching methods. Additionally, we offer a 20-hour annual training course on digital blended teaching, designed to assist teachers in building a foundation for enhancing their abilities. To date, 61 teachers have obtained certification from the training program and have become Empowered Blended Teaching Instructors. "Integration of Digital Audiovisual Materials into the Curriculum"

is an exclusive course subsidy tailored for "Empowered Blended Teaching Instructors," encouraging teachers to create 8 to 12-minute lightweight digital audiovisual materials to incorporate into traditional courses. This approach combines the concept of micro-learning, employing short-duration multimedia content, and employing synchronous and asynchronous online teaching strategies. By applying for three distinct categories of subsidies, teachers can adjust the pace of implementation, lowering the threshold for digital teaching. This initiative expands the array of digital teaching resources, fosters the remote learning abilities of both teachers and students, and advances hybrid teaching methods. As of now, 17 teachers have participated in this subsidy project.

MIAOPU Project

Besides integrating design thinking into standard courses, a lesson preparation, observation, and discussion approach is planned, primarily focusing on the suitability of instructional design and modularization of workshop learning materials. This approach is executed through two main avenues: lesson preparation, observation, and subsequent discussion. Prior to conducting the workshop, workshop instructors are invited to collaboratively prepare lessons. This process enables participating teachers to effectively integrate real-world issues into teaching resources and facilitates students in concentrating on learning objectives. Throughout the workshop, all faculty members have the opportunity to conduct class observations. This allows teachers to observe students' learning performance and the utilization of teaching materials and tools. Such observations assist teachers in making adjustments and applying similar methodologies in their own courses. Following the workshop, a lesson discussion took place, concentrating on the students' learning outcomes post-class. The discussion included an assessment of the frequency of students' learning performance and the effectiveness of teaching methods in aiding students' comprehension of the core concepts. This session also afforded teachers an opportunity to reflect on their class observations. In 2022, we completed 12 internal faculty exchanges, 3 inter-school faculty exchanges, 1 field industry expert and senior faculty exchange, 9 administrative exchanges, 1 teaching assistant workshop, and certified 9 teachers in seedbed coaching.

AI Teacher Training

To enhance the AI literacy of non-computer science teachers within the school, we invite professional instructors to establish a school-level AI teacher community. Together, we will organize interdisciplinary teacher training courses to cultivate teachers' cross-domain knowledge in AI curriculum development and their skills in using Microsoft Azure technology tools. Additionally, we aim to integrate AI machine learning into the curriculum. In the 2021/2022 academic year, a total of 4 sessions of Azure platform-related workshops were conducted, with a total of 80 teachers participating. Microsoft Azure platform was used by 1,185 students and teachers across 30 courses.



The faculty and staff of our school are learning Azure AI text analysis and application.

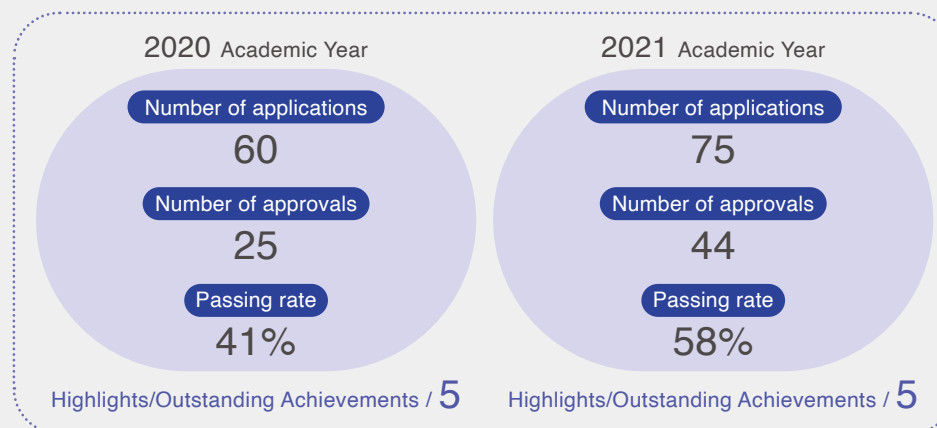
Teacher Instructional Consultation Service

To support faculty members in developing teaching research or preparing for promotion through various channels, Teaching Development Center has been promoting the "Faculty Teaching Consultation Service" since 2019. When faculty members encounter teaching obstacles, this service provides a consultation channel to seek resources and solve difficulties. Consulting services are divided into two categories: teaching promotion consultation and expert consultation on teaching practice research. Teacher consultation topics encompass but are not limited to innovative teaching materials and methods, the utilization of teaching tools, classroom management, and promoting teaching practices. After matching the requested teachers with the appropriate expert scholars, the Teaching Development Center provides funding for consultation fees. In 2022, a total of 5 consultation services were completed, receiving positive feedback from users who acknowledged the services' value in enhancing teaching. The Teaching Development Center plans to adapt and broaden the scope of consultation services in accordance with teachers' needs.

Teaching Practice Research Project

The Ministry of Education has initiated the Teaching Practice Research Program in 2017 to enhance the quality of teaching and implement the school's educational mission. It is combined with the Higher Education SPROUT Project to encourage schools to focus on school development and allocate resources effectively to the teaching environment. The school supports teacher research by offering comprehensive teaching resources in accordance with the policy. This is facilitated through activities including pre-grant support, diverse workshops, experience sharing, and academic seminars, all organized within the teacher support system. The objective is to motivate teachers to participate in both research and practical teaching. In the 2022/2023 academic year of our school, a total of 75 project proposals were submitted, with 44 of them being approved. The approval rate reached 58%.

Statistics of Teaching Practice Research Projects in the Past 3 Academic Years



Teaching Practice Enhancement Subsidy

To enhance teaching and improve its effectiveness, we have initiated an internal teaching practice research program, guiding teachers to align with the Ministry of Education's teaching practice research initiative. Since 2020, we have submitted 14 applications for teaching practice research enhancement projects. That year, we filed 13 applications for the Ministry of Education's teaching practice research program and secured subsidies for 5 projects. In 2021, we applied for 16 enhancement projects, all of which were also submitted for the Ministry of Education's teaching practice research program, receiving subsidies for 8 projects. In 2022, we pursued 15 enhancement projects, all of which were simultaneous applications for the Ministry of Education's teaching practice research program, obtaining subsidies for 6 projects.

3.7 Academic and Ethical Integrity

3.7.1 Academic Integrity

To equip students with essential ethical awareness and attitudes for research, our university has instituted guidelines governing academic research ethics education. It mandates that graduate students fulfill specified courses at the Center for Taiwan Academic Research Ethics Education before they are eligible to sit for degree examinations. Furthermore, each department (college, institute, degree program) may craft relevant courses or alternative approaches to academic research ethics education in line with their distinct characteristics and requirements, as long as they align with the content of academic ethics education. In the past 2 years, our university has achieved a 100% pass rate in the statistics of academic ethics courses, as shown in the table below:

Statistics of academic ethics course pass rates in our university in the past 2 years

	2020/2021 Academic Year		2021/2022 Academic Year	
	Number of participants expected	Number of approvals (People)	Number of participants expected	Number of approvals (People)
 Master's student	1,662	1,662	1,604	1,604
 Ph.D. student	50	50	68	68

3.7.1 Academic Integrity

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3.8 Student Care

3.8.1 Admissions and Financial Aid

The university has long been committed to enhancing the accessibility of higher education. To improve the support system for underprivileged students and effectively facilitate social mobility, the university actively aligns with the Ministry of Education's policies. It has expanded enrollment opportunities for economically disadvantaged students and increased the proportion of underprivileged students. This includes providing practical assistance, such as subsidizing registration fees for entrance exams, transportation, and accommodation expenses, enabling economically disadvantaged students to receive necessary financial aid for university admission. The number of disadvantaged students in the 2021/2022 academic year is shown in the following table:

The number of disadvantaged students in the 2021/2022 academic year is shown in the following table:

Total: 3,593

Low-income households	Lower-middle-income households	Children from families with hardship	Physical and mental disabilities	Indigenous Peoples	Other eligible participants for the higher education institution's program assisting disadvantaged students
445	652	95	992	456	953

* Economically disadvantaged students (including low-income households, middle-low-income households, children and grandchildren of families with special circumstances, children of students with disabilities and individuals with disabilities, recipients of financial aid under the Higher Education Disadvantaged Student Assistance Program, indigenous students, and students whose families have experienced sudden changes approved by the school).



To support economically disadvantaged students in pursuing higher education, we have recruited a diverse range of students through various channels for admission to four-year technical programs during the day. In the 2021/2022 academic year, we admitted 102 children of new citizens, 25 Indigenous students through selective admission to both four-year and two-year technical college, and 44 students from low-income or lower-middle-income backgrounds. In 2022, we aim to strengthen and broaden our recruitment and promotional channels. For instance, we plan to conduct promotional activities in high schools located in remote areas or invite high school students to visit our campus for experiential activities. This initiative is designed to enhance their comprehension of our professional fields and foster a greater inclination to enroll in our institution. We have organized a total of 61 events, engaging nearly 10,000 participants. In the 2021/2022 academic year, a total of 186 economically disadvantaged students received financial assistance covering registration fees, transportation expenses, and accommodation costs required for their examination applications. This represents a growth of 365% compared to the previous year. The aforementioned approach allows outstanding students who are economically disadvantaged but possess potential to access higher education opportunities, overcome adversity, and promote social mobility.

In order to provide comprehensive support for students with disabilities and special education students certified by the Ministry of Education, an "Individualized Support Plan" has been established to ensure they receive care in both their learning and daily lives. Additionally, a "Special Education Implementation Committee" has been set up to regularly review, coordinate, and plan for more effective in-school learning, life guidance, and support services.

Economic Disadvantaged Student Learning Support Mechanism

Education has long played a pivotal role in promoting social mobility, and it is the responsibility and goal of higher education to strive for the elimination of the urban-rural education gap and the balance of teaching resources. Therefore, our university passionately believes that higher education should guarantee the right to learning and education for all capable individuals. To cultivate the diverse abilities of economically disadvantaged students, enhance learning outcomes, and alleviate financial burdens, the university has established more than ten relevant incentive programs. These programs are implemented diversely to support students throughout their academic journey. By providing various counseling mechanisms and offering financial incentives, the university aims to replace work-study with dedicated learning, effectively enhancing student learning outcomes. The following describes the highlights and characteristics of each program:

- 1** Career Counseling and Employment Collaboration Assistance Program: This program encourages economically disadvantaged students to engage in career exploration and employment matching activities, fostering career knowledge, active involvement in career planning, and enhancing employability. It included 27 career seminars, 36 corporate internship briefings, 4 campus job fairs, and 8 corporate visits, engaging a total of 20,000 participants and disbursing rewards totaling NT\$261,565. Student satisfaction reached 86%, with students stating that career lectures help develop job-seeking soft skills. They also gain an understanding of company characteristics and development through internship explanations and visits. Financial assistance for interviews reduces the economic burden and increases motivation and acceptance rates for job interviews.
- 2** License Guidance Incentive Subsidy Program: Encouraging economically disadvantaged students to apply for professional licenses and participate in language proficiency exams. Taking into account the financial burden and the cost of license exams, this program aims to reduce the students' reluctance to take the exams by providing subsidies for registration fees for license training courses, exam fees, and transportation expenses. Upon obtaining the license, students will receive a cash reward, allowing them to obtain professional certification and opportunities for personal growth. A total of NT\$1,226,050 in rewards has been issued, benefiting 437 individuals. The program has achieved a satisfaction rate of 92% among participating students. Among them, 6 students have passed the Senior Professional and Technical Examinations, the National Class A Certified Technician Examination, or the Ministry of Transportation's Certificate for Marine Personnel - First Deck Officer, and 21 students have passed the Junior Professional and Technical Examination, the National Class B Certified Technician Examination.
- 3** Academic Learning and Empowerment Program: This program encourages students to plan their self-study and improve their professional knowledge and skills. Monthly rewards are provided to participating students, introducing a learning-based mechanism to alleviate financial pressure instead of relying on work-study programs. The Academic Learning Program empowers students to independently plan their extracurricular learning, assisting in mastering learning skills, utilizing resources effectively, and enhancing the overall learning effectiveness. The Capacity-Building Program is designed to augment students' expertise and interdisciplinary knowledge. It allows students to select their topics and plan learning projects, which are further enhanced by professional guidance to refine their professional knowledge and problem-solving abilities. A total of 395 students engaged in both programs, earning rewards totaling NT\$17,117,000. In the Academic Learning Program, 75% of students achieved an average semester score of 75 or above, while nearly 23% improved their semester average score by 5 or more. The Capacity-Building Program received a 90% satisfaction rate from students. Participants expressed that the program significantly bolstered their expertise and interdisciplinary knowledge, earning recognition from multiple research institutes when applying for graduate school.



The distribution of financial incentives for economically disadvantaged students in our school over the past 2 years

	2021		2022	
	Number of recipients granted	Amount Issued (NTD)	Number of recipients granted	Amount Issued (NTD)
Academic Learning Support (Learning Achievement)	844	1,306,000	1,340	2,128,000
Student Self-Learning Program (Academic Learning)	369	14,504,000	2,064	14,448,000
Guidance on Learning Process	-	-	-	-
Assistance in Career Planning and Counseling	91	163,500	98	147,000
Job Placement Matches	194	208,284	96	114,565
License Guidance	341	942,841	437	1,226,050
Enhancing Learning and Development for Outstanding Students (Empowerment and Capacity Building)	44	2,044,000	341	2,669,000
Competition Excellence	10	49,920	8	16,000
Social Service Capacity Building	-	-	-	-
Leadership and Guidance for Diverse Capacity Building	199	597,000	-	-
Professional Services	211	633,000	-	-
Total	2,303	20,448,545	4,384	20,748,615

In addition to managing student loans, tuition and fee waivers, and scholarships for disadvantaged students as mandated by government regulations, various assistance programs have been devised for students with different circumstances. These encompass initiatives like the Hand in Hand Scholarship Program, Love and Fulfillment Scholarship, Chunyang Scholarship, and 3Q Scholarship. These programs are funded by dedicated alumni, faculty, staff, and external individuals, extending diverse forms of financial aid to alleviate the financial strain on students.

Funding Sources, Number of Recipients, and Amounts of Scholarships, Incentives, and Financial Aid at Our University in 2022

Source of Funding	Number of recipients granted	Amount Issued (NTD)
Internal Funding	2,120	70,747,455
External Donation	275	1,805,000
Corporate or Foundation Scholarships	694	15,592,688
Government Subsidy	6,704	37,593,667
Total	9,793	125,738,810

Application Status of Various Financial Aid Measures in 2022

Various Measures to Assist Students	Number of applicants	Requested Amount (NTD)
Tuition and miscellaneous fees exemption	4,961	84,624,460
Student Loans	8,809	260,697,836
Living Assistance Fund	893	17,190,000
Scholarship for Underprivileged Students in Higher Education Institutions	953	13,127,500
Emergency Relief	155	2,290,000
Free tuition for the first three years of the 5 year Junior College Program	866	6,569,913
Subsidy for Off-Campus Accommodation Rent	508	3,999,950
Total	17,145	388,499,659

Application Status of Various Financial Aid Measures in the Past 3 Years

		2020	2021	2022
Tuition and miscellaneous fees exemption	Requested Amount (NTD)	82,232,884	81,906,048	84,624,460
	Number of applicants	4,833	4,824	4,961
Student Loans	Number of applicants	267,478,137	271,298,777	260,697,836
	Requested Amount (NTD)	9,095	9,163	8,809
Other Scholarships and Bursaries *	Requested Amount (NTD)	41,457,563	41,502,886	43,177,363
	Number of applicants	2,879	3,200	3,375
Total	Requested Amount (NTD)	391,168,584	394,707,711	388,499,659
	Number of applicants	16,807	17,187	17,145

* Other scholarships include living allowances, scholarships for disadvantaged students in colleges and universities, emergency assistance, three years of tuition exemption for junior colleges, and subsidies for off-campus accommodation rent.



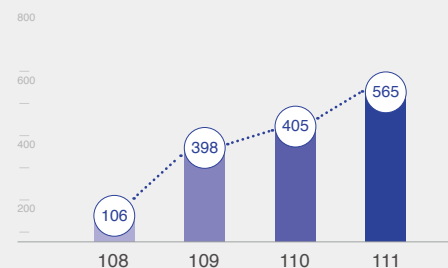
To strengthen and expand our enrollment promotion channels, we plan to conduct promotional activities in rural high schools, inviting them to visit our campus for experiential learning activities. This will deepen their understanding of our professional fields and increase their willingness to enroll in our institution. In 2022, a total of 66 events were held, with approximately 13,600 participants. These activities included orientation sessions, college fairs, mock interviews, and school visits.

In addition, our university has aimed to attract exceptional students to study and improve their learning experiences. We initiated scholarships for outstanding students in the five-year junior college and undergraduate departments starting from the 2018/2019 academic year. Moreover, from the 2020/2021 academic year, we expanded the program to encompass scholarships for master's degree students, encouraging exceptional graduates from our undergraduate departments to pursue advanced degrees.

The number of recipients has seen a consistent increase over the years, yielding noteworthy outcomes. In the 2019/2020 academic year, a total of 106 individuals met the award criteria. In the 2020/2021 academic year, a total of 398 individuals met the award criteria. In the 2021/2022 academic year, a total of 405 individuals met the award criteria. In the 2022/2023 academic year, a total of 565 individuals met the award criteria. In order to encourage students to study hard and improve the academic atmosphere, scholarships and certificates are awarded to the top three students in each class of the five-year college and undergraduate departments every semester. The first-place student receives NT\$4,000, the second-place student receives NT\$3,000, and the third-place student receives NT\$2,000. In the 2019/2020 academic year, a total of 1,733 students were awarded; in the 2020/2021 academic year, a total of 2,201 students were awarded; and in the 2021/2022 academic year, a total of 2,194 students were awarded. This effectively motivates students to strive for excellence and improve their academic performance.

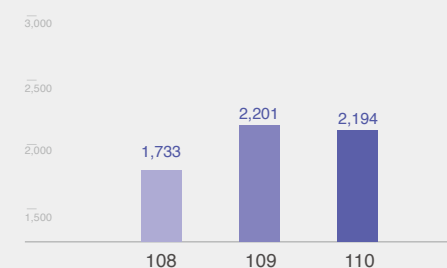
Number of people who meet the admission award criteria for master's programs in the past 4 years

NKUST's outstanding graduating students enroll in the master's program



The number of people who meet the criteria for academic excellence awards in the past 3 years

The top three students in each class of the Fifth Junior College and the University Department



In 2022, our school organized a total of 66 recruitment events, engaging approximately 13,600 participants.

3.8.2 Career counseling and employment performance of graduates

In order to provide comprehensive career planning assistance to students, our school actively organizes a variety of career courses and employment matching activities, including career lectures, recruitment briefings, company visits, and campus job fairs. The details are as follows:

I. Career Lecture

Utilizing career assessments like the reputable PPSS, UCAN, and CPAS, students embark on a "self-exploration" journey under professional guidance, gaining insights into their interests, strengths, and suitable career paths. The lecture serves as a gateway for students to delve into diverse industries, offering insights and interview tips shared by seasoned professionals. Engaging with industry experts allows students to grasp a holistic view of various career aspects and acquire practical advice. The objective is to aid every student in preparing for the job search process and offering clear guidance for their future career paths.



▲ Career Lecture - Writing an Impressive Professional Resume

II. Career Fair

The number of information sessions held in the past three years has been increasing annually. This initiative aims to attract a diverse range of companies to campus for recruitment presentations, providing students with a broader spectrum of corporate information and job opportunities. The student participation rate has significantly increased year by year, indicating that the information sessions have provided students with a deeper understanding of various corporate cultures and related employment opportunities. Consequently, students' interest in recruitment information has shown a gradual rise.



▲ The university is organizing a career fair for Evergreen Marine recruitment

III. Corporate Visits

Actively expanding collaborations with renowned companies to offer students opportunities to gain direct insights into corporate operations and culture, the number of visits increased from 4 in 2020 to 8 in 2022. Corporate visits are not only for observation but also for practical experience and learning opportunities. Through firsthand experience of a company's inner workings and interaction with industry professionals, students gain deeper insights into the industry's characteristics and challenges. These visits not only enrich students' practical experience but also help them bridge the gap between theory and practice.

IV. Physical Job Fair

Every year from March to June, during the graduation season for universities, our university organizes a physical job fair. Recent online job fairs have been organized in response to the pandemic, offering students additional communication opportunities. In 2022, students from our school actively participated and took the opportunity to engage with businesses and on-site booth personnel. During physical events, students can directly interact and engage with booths to gain a concrete understanding of the recruitment needs and management styles of their preferred companies, and even submit their resumes. By combining virtual and physical elements, the campus job fair model provides students with more flexible options while also offering companies more opportunities for face-to-face interaction and potential talent exchange. Through the job fair, we aim to bridge the gap between students and businesses, fostering greater collaboration and creating more opportunities for cooperation. elements, the campus job fair model provides students with more flexible options while also offering companies more opportunities for face-to-face interaction and potential talent exchange. Through the job fair, we aim to bridge the gap between students and businesses, fostering greater collaboration and creating more opportunities for cooperation.



▲ Employment Expo at the Jiangong Campus

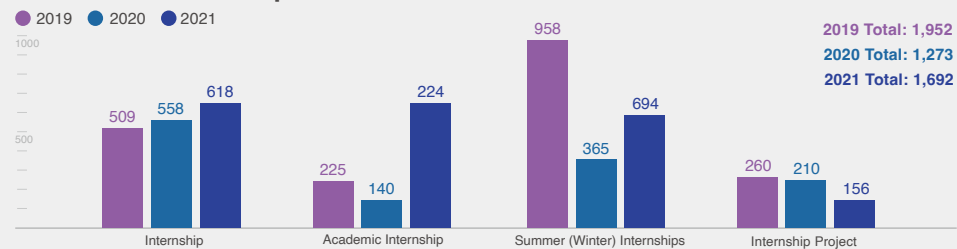
Career Activities Implementation Status

		Career Lecture	Job Recruitment Information Seminar	Corporate Visits	Campus Employment Expo
2020	Session	36	15	4	1
	Number of visitors	594	329	133	9,898
2021	Session	59	18	7	3
	Number of visitors	1,596	1,810	291	8,889
2022	Session	41	36	8	5
	Number of visitors	1,220	2,262	226	12,073

Promoting workplace internship programs, collaborating with enterprises to jointly cultivate talents.

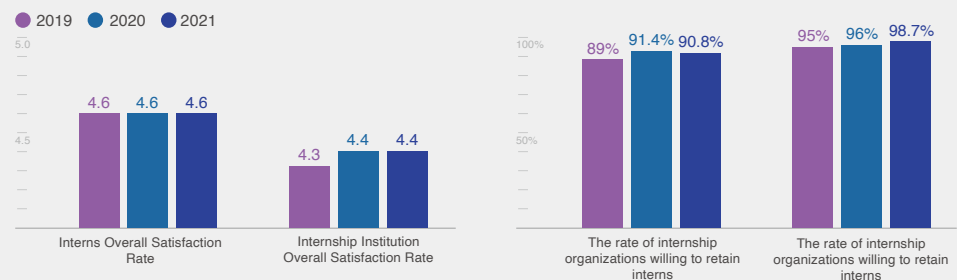
In order to enhance students' practical professional abilities, our university continues to promote diverse internship programs. Aligned with the curriculum plans of each department, we offer semester internships, academic year internships, summer/winter internships, and project-based internship courses. Through these internship programs, students have the opportunity to apply theoretical knowledge in practical scenarios, gaining workplace experience in fields such as technology, manufacturing, tourism, transportation, and finance. The number of student internships in the past 3 years also indicates a significant increase in the 2021/2022 academic year compared to the period affected by the pandemic.

Number of Internships in the Past 3 Academic Years



According to the satisfaction survey of internship students and organizations for the academic years 2019/2020 and 2020/2021, the analysis results show that the overall satisfaction of students participating in internship courses was rated at 4.6 out of 5. Additionally, in the academic year 2020/2021, 90.8% of the internship organizations expressed willingness to retain interns, while 98.7% were keen on continuing to offer internship opportunities. This illustrates the excellent performance of NKUST students, garnering high recognition from the industry.

Satisfaction Survey of Interns and Internship Institutions for the Academic Years



Sharing Internship Experiences, Passing Down Paradigms

The university has been organizing the Internship Creative Contest for six consecutive years. Combining written and audiovisual presentations and adopting an electronic submission format, the competition encourages students from diverse fields who have completed domestic and international internship courses to vividly document their internship experiences. The goal is to present these experiences in an engaging manner, showcase internship models, and share insights about workplace environments, internship opportunities, and interview preparations across various sectors like shipping, manufacturing, technology, finance, tourism, and the public sector. The primary aim is to enhance industry understanding and facilitate the transition to employment for younger students.



▲ Workplace Internship Experience Creative Contest Poster

Starting in 2022, to help students gain a better understanding of practical aspects of the workplace, the Alumni Center of our university organizes the "Intern Life Snapshots" event. This event aims to provide internship students with a platform to share their daily experiences in the workplace, both domestically and internationally, through simple photos and brief captions. By doing so, it allows younger students to get a closer look at the challenges and hardships of intern life, and to appreciate the sense of achievement and growth that senior students have gained from it. It also establishes a channel for sharing learning experiences.

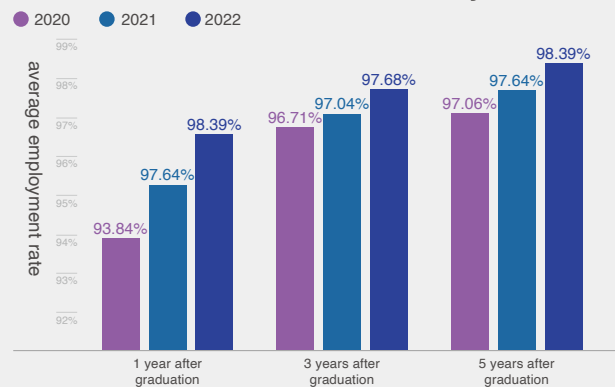
► 2022 Internship Snapshot Activity



Graduate Destination Tracking Survey

The school is collaborating with the Ministry of Education to conduct surveys on the career trajectories of graduates. This initiative aims to comprehend the post-graduation endeavors of alumni, including their professional performance and feedback offered to the institution. Such insights facilitate the enhancement of talent cultivation and utilization, improvements in curriculum and teaching methods, and the promotion of academic-practical integration. The survey achieved response rates of over 80% one year after graduation, over 68% three years after graduation, and over 60% five years after graduation, with an average employment rate exceeding 90% across all survey periods.

Statistics of Average Employment Rate in the 2020-2022 Graduates' Career Survey



Employer Satisfaction Survey

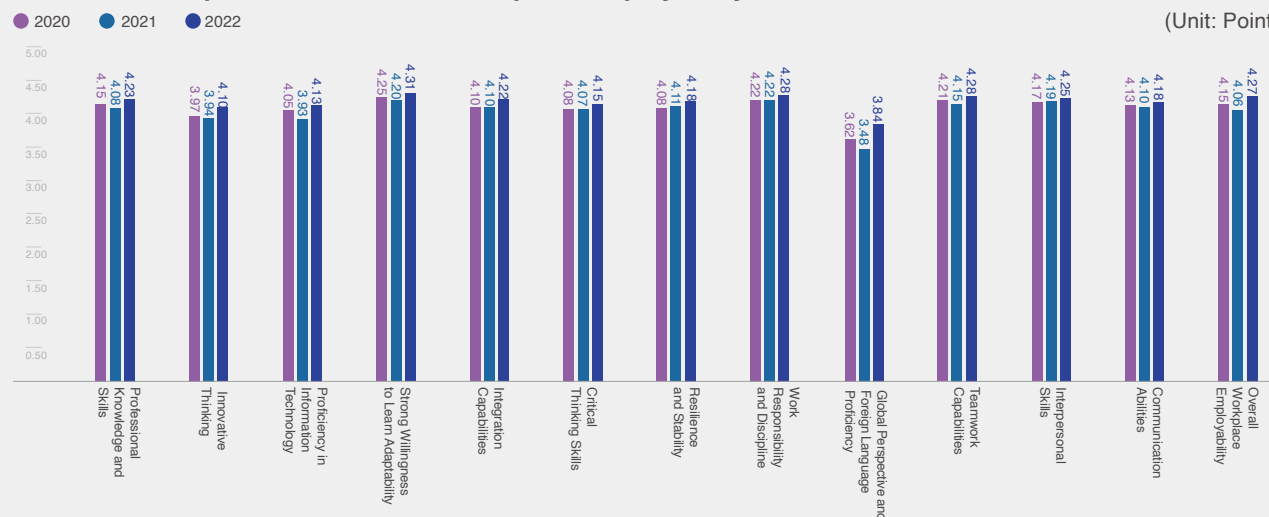
To comprehensively understand the employment status of our graduates and strengthen career planning and employment counseling, our institution conducted a survey titled "Assessment of Graduates' Workplace Competencies by Employers." This survey aimed to accurately evaluate our graduates' performance in the workplace. It gathered feedback from business executives regarding their satisfaction with our graduates' professional knowledge and skills, innovative thinking, proficiency in information technology, strong willingness to learn, adaptability, integration capabilities, critical thinking skills, resilience and stability, work responsibility and discipline, global perspective and foreign language proficiency, teamwork capabilities, interpersonal skills, and communication abilities. The satisfaction level of business executives regarding the employability of our graduates in the workplace will serve as a reference point for overall curriculum planning and teaching enhancements in our institution, thereby bolstering the market competitiveness of our graduates. The average scores for overall workplace employability are all above 4 (out of 5), indicating that the majority of employers affirm the performance of our graduates in the workplace. Information regarding the results of the graduate tracking survey and employer satisfaction survey can be found on the official website of our university's Alumni Service and Career Development Center.



Alumni Service and
Career Development
Center

Statistics of Corporate Evaluation of Workplace Employability of Our School's Graduates from 2020 to 2022

(Unit: Points)

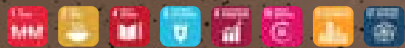


1. The graduation rate of our school in 2022 is 89.63%, and the graduation rate for the current year is 76.83%.*
2. The employment rates of our university's 2022 graduates after 1, 3, and 5 years of graduation all exceed 96%.
3. The overall workplace performance of our university's graduates in 2022 has reached a score of 4.27 out of 5, according to feedback from employers.

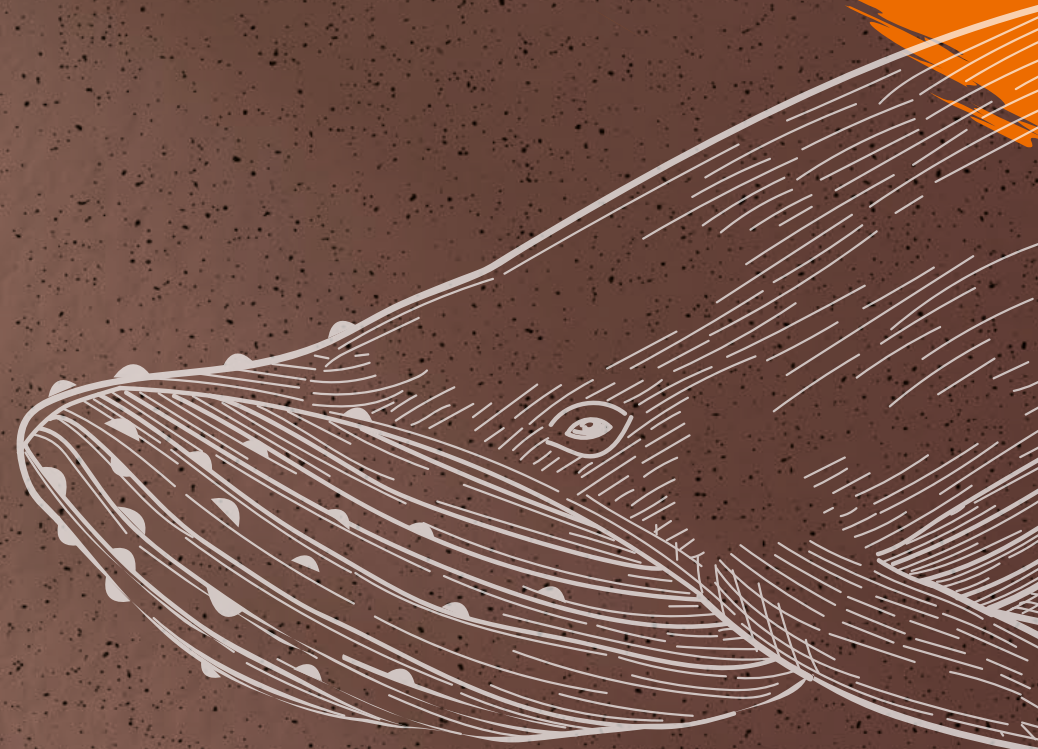
* The main calculation scope includes four-year technical colleges, two-year technical colleges, and five-year junior colleges, excluding doctoral programs, master's programs, and in service master's programs.

CHAPTER 4

Social Inclusion and Practice



- 4.1 University Social Responsibility
- 4.2 Focus Special Issue
- 4.3 Resource Sharing
- 4.4 Barrier-free Campus
- 4.5 University Historical Buildings and Open Space
- 4.6 International Exchange





4.1 University Social Responsibility

University Social Responsibility (USR) Program

The Ministry of Education has been promoting the University Social Responsibility (USR) program since 2017. The program focuses on sustainable development issues such as local caring, environmental sustainability, industry linkage and economic sustainability, health promotion and food safety, cultural sustainability, and other social practices. It provides USR project teams of universities and colleges across Taiwan with a platform for learning, experience sharing, and discussion of issues. NKUST has been involved in the USR program since its initial stage and has been a prominent university in domestic USR for many years. The following table shows the projects currently being implemented in the Phase II USR (2020-2022):

The List of NKUST's Projects of the Phase II USR Program

Project Name	Execution Site	SDGs Goals	Subsidy per Year
Good Fish Next Door Project	Linbian and Jiadong, Pingtung	 	11 million
Coastal Placemaking Diamond Fishing Village— Kaohsiung Yongan Fishing Village Project	Yong'an, Kaohsiung	 	8 million
Yanchao—Placemaking from New Agriculture	Yanchao, Kaohsiung	  	7.2 million
e-WATCHER	Qiaotou, Nanzih and Zuoying, Kaohsiung	  	3.5 million
Living in a Peach-Blossom Xanadu: A Resilient Township Transformation Project for Kaohsiung Mountain Areas	Taoyuan, Maolin and Liugui, Kaohsiung	 	3.5 million

University Social Responsibility Hub (USR HUB)

In order to encourage initiative-taking engagement between teachers, students, local communities and industries, NKUST has compiled key issues in regional development, integrated capacity and resources from various departments, and taken concrete actions to stimulate regional development. Since 2017, we have taken the lead to formulate the "Regulations Governing Subsidies for University Social Responsibility Pilot Projects" (hereinafter referred to as "the Regulations"), aiming to cultivate the talents needed for regional development, drive innovation and technological advancement in local industries, bridge the gap between urban and rural areas' educational development, and create mutual prosperity for our teachers, students and local residents so as to fulfill university social responsibility. The Regulations help teachers and students teams with USR basis and capacity to compile local issues and plan improvement strategies through subsidies and incubation consulting. The projects implemented in the current period (2020-2022) are as follows:

The List of NKUST's USR HUB Projects for 2020-2022

Project Name	Execution Site	SDGs Goals	Subsidy per Year
The Youth who Harnessed the Wind Putting down Roots in Rural Chiayi Action Study Plan	Dongshi, Chiayi		500 thousand
Simple Living and Travel: Internet of Vehicles Project for Liuqiu Island	Liuqiu, Pingtung		500 thousand
For a Sustainable Kaohsiung: Fengshan District Revival	Fengshan, Kaohsiung		500 thousand
Promoting Agricultural Electronics and Information Education Combined with Food and Agriculture Education in Disadvantaged Elementary and Junior High Schools	The site is based on basic schools		500 thousand
Zuozhen District Local Creation and USR Project	Zuozhen, Tainan		500 thousand

In response to the policies of the Ministry of Education and to effectively execute the tasks of university social responsibility, NKUST has established a Social Responsibility Office under the first-level unit, Office of Industry-Academia Cooperation, and it is staffed with several professional managers and specialists to conduct a comprehensive assessment of various development issues in Southern Taiwan and promote regional improvement strategies. With a focus on integrating the characteristics of strong connections with industries, innovation and entrepreneurship, and ocean technology, the Social Responsibility Office adheres to the people-oriented core concept and operation model of value co-creation to fulfill its social responsibilities, and incorporates the concepts and framework of Sustainable Development Goals to plan a road map for sustainable creation together with the local community and strive towards the national vision of balanced urban and rural development.

Over the past five years, NKUST has passed 13 projects in the Ministry of Education's Phase I and Phase II University Social Responsibility (USR) Program, and has received subsidies of NT\$170 million, both of which are the highest among all public and private universities and colleges in the country. At the same time, we have implemented Regulations Governing Subsidies for University Social Responsibility Pilot Projects on campus (later renamed as the University Social Responsibility Hub (USR HUB) in accordance with policy changes). In total, we have provided guidance to 18 micro-USR teachers and students teams and provided substantial subsidies of nearly NT\$13 million in five years. This once again demonstrates NKUST's commitment to fulfilling social responsibility and implementing sustainable development.

In order to further assume the responsibility of global sustainable development as global citizens, NKUST has officially included "social care" as one of the characteristics of our institutional development in the latest medium-term development plan, hoping to exert a positive influence with a warmer kindness, and play the role of a trendsetter in regional, national, and even global sustainable development. We also aim to establish a complete mechanism for promoting social practices even after the completion of the USR program. For more detailed information on the USR program, please refer to NKUST's Social Responsibility Annual Report.



NKUST's Social
Responsibility Annual
Report



NKUST has passed 13 projects in the Phase I and Phase II USR Program, and has received subsidies of NT\$170 million, ranking the highest among all public and private universities and colleges in the country.



4.2 Focus Special Issue

NKUST's diversified service issues became the center of attention at the Ministry of Education's 2022 USR EXPO



A total of five USR project teams of NKUST participated in the exhibition in 2022, including Good Fish Next Door Project, Coastal Placemaking Diamond Fishing Village—Kaohsiung Yongan Fishing Village Project, Yanchao—Placemaking from New Agriculture, Living in a Peach-Blossom Xanadu: A Resilient Township Transformation Project for Kaohsiung Mountain Areas, and e-WATCHER. NKUST demonstrates its commitment to diverse sustainability issues through various sustainable development issues such as ocean, fisheries, education, agriculture, ecology, environmental protection, residential safety, and local revitalization. It specifically focuses its expertise on assisting Southern Taiwan and providing comprehensive solutions to regional development issues, demonstrating the vocation to fulfill social responsibility and implement sustainable development.

NKUST introduces various project resources into the curriculum, leading teachers and students to venture beyond the campus and into the community, and transforming knowledge gained in classes into solutions that can be embodied and applied in the field, and also helps teachers

and students listen to local opinions, understand community needs, and learn to integrate resources to promote sustainable development in the region. The Ministry of Education's 2022 USR Expo also invited President Yang, Ching-Yu to give a special lecture on "Sustainable University - Cultivating Next Generation Academic Governance Talents and Future Education". With "Support Strategy of USR School Affairs Promotion as Ongoing Promotion of Sustainable Development" as the theme, President Yang, Ching-Yu shared USR's sustainable support framework and the goal and vision of mutual prosperity with the local community.

In response to the Expo's theme of "Lights of University and Intelligent Sustainability," the teams showcased the diverse achievements of the implementation in the ten administrative districts of Kaohsiung and Pingtung in recent years through static displays and interactive activities such as exhibition booths, photography exhibitions, micro-films, and USR TALK. Not only did the visitors interact lively, but it also fostered exchanges with other participating schools, weaving a vision for future inter-school and interprofessional collaboration.



▲ The Kaohsiung Yongan Fishing Village Project team won three national excellence awards, namely the "Most Popular Photo Award," "Most Popular Microcinema Award," and "Most Popular Interaction Award," at the 2022 USR EXPO (left)

▲ People participating in the Q&A game on the results of the Good Fish Next Door Project (middle)

▲ President Yang, Ching-Yu served as a speaker for the 2022 USR EXPO's special lecture (right)

The volunteer construction team of the Department of Construction recreates the traditional taro kiln culture of Indigenous peoples



NKUST's Department of Construction Engineering, Department of Information Management, Department of Industrial Design, Department of Cultural and Creative Industries and Social Responsibility Office jointly implemented the Ministry of Education's USR project "Living in a Peach-Blossom Xanadu: A Resilient Township Transformation Project for Kaohsiung Mountain Areas" (2020-2022). With "Sustainable Environment - Disaster Prevention and Control Education" as the core theme, those departments and office introduced academic expertise into rural communities in Kaohsiung and cooperated with the communities to achieve two Sustainable Development Goals: residential safety and environmental sustainability.

The theme of the 2022 project was "Sustainable Food and Agricultural Education". The project team adhered to the spirit of "empowering communities" and decided to revive the long-lost traditional craft of "Taro Roasting Kiln" of the Rukai and revitalize the "Indigenous Taro Roasting Kiln: Food and Agricultural Culture" after discussions with community organizations in Maolin District, Kaohsiung City and teachers and students of Maolin Elementary School. Therefore, the project team selected Maolin Elementary School as the service site and held the "Taro Roasting

Kiln Handover Ceremony" at Kaohsiung Municipal Maolin Elementary School on September 30, 2022. By combining the "Humanitarianism Architecture Construction" with the "Taro Roasting Kiln culture," the project team assisted the community and teachers to integrate indigenous traditional food and agricultural culture into popular science and design education of elementary school, raising awareness among university students and elementary school students about the importance of preserving cultural heritage.

The "Humanitarianism Architecture Team" of NKUST's Department of Construction has been promoting "ecological humanitarianism architecture" in indigenous rural areas of Kaohsiung for five years. The volunteer construction team emphasizes the "thematic cooperative learning method," where teachers lead students to different sites, identify problems, develop strategies, and ultimately achieve the set goals. The combination of professional knowledge and practical experience in rural areas has stimulated and cultivated the practical abilities of university and elementary school students, effectively fulfilling the university social responsibility.



▲ Combining "Humanitarianism Architecture Construction" and "Taro Roasting Kiln Culture" to incorporate food and agricultural culture into elementary school education

"Love, Protect, and Restore Our Rivers": USR Joins Hands with Fubon Life to Take Action to Clean Up Rivers



The USR project "e-WATCHER" of NKUST's Department of Safety, Health and Environmental Engineering joins hands with Fubon Life to connect universities, enterprises and local communities to jointly protect water environment and promote the "Love, Protect, and Restore Our Rivers" project, hoping to strengthen awareness of water pollution identification and conservation through community actions, and to arouse local people's recognition for river protection through environmental education and practical actions.

According to the 2021 Pollution Index of Important Rivers of Environment Protection Administration (which upgraded to Ministry of Environment in 2023), nearly 23% of rivers is considered to be moderately or severely polluted, with a total length of 662.6 kilometers. The worst polluted rivers are all in the southern area. Therefore, the project invited NKUST students, residents of local communities in Nanzih and Gangshan districts, and volunteers of Fubon Life to care about the local river basin issues of Dianbao River, Houjin River, and Akungtien River. Through holding a River Clean-ups Workshop (河川清淨知能工作坊), the project aims to enhance environmental awareness by using the theme "My home has a Little Stream Out Front" and familiar river basins resonated with local residents, and uses actual cases to educate participants on hard-to-notice pollutants on the periphery areas of rivers. Through comparative

experiments and instrument testing, participants will compare transparent and clear water samples with turbid and colored ones, dispelling the misconception of "out of sight, out of mind." After lessons, it starts a series of protecting our river patrol activities (河川巡守暨清淨行動). Participants observe and understand the current quality of the local water environment around their community by using the drone to monitor the river basin and operating instruments to assess samples. With the cleanup rivers activity as a call for actions, participants lead the community in making efforts to protect rivers and promote environmental sustainability.

This year, the project cooperated with Fubon Life once again, not only to demonstrate our commitment to protecting the water environment, but also aimed to expand our efforts in river conservation through cooperative partnership. The cooperation has connected four local patrol squads, with nearly 160 members, to monitor river environments at present. The patrol squads are formed by students, residents, and Fubon Life KH568 volunteers, spanning across different age groups. Together, the members take actions to protect the rivers and continue the virtuous cycle, practicing the SDG 6 mission goal, "everyone can access clean and affordable water," and safeguard Taiwan's environment.



▲ NKUST conducted river patrol and clean-up operations (left)



▲ The workshop was connected to on-site operations, and we proceeded to the banks of Houjin River to conduct the practical process of water quality testing (right)

USR Proceeds to Rural Areas to Market Agricultural Products and Call for Jaunt in Zuozhen



Department of Business Administration jointly promote the USR HUB "Zuozhen District Local Creation and USR Project," using expertise and skills to cooperate with key local partners to guide students to develop revitalization strategies, such as setting up an information integration website and repackaging agricultural products to invigorate rural areas and achieve sustainable development for both urban and rural areas, as well as sustainable learning for students.

This project focuses on the mutual growth between the teachers and students team and local areas. By using expertise and skills to cooperate with local partners, we aim to contribute to the development of Zuozhen, Tainan. As part of the project, Professor Su, Chris K.W. of the Department of Information Management guided students in utilizing human-computer interaction design to develop a user-oriented website. During the process, the team repeatedly interacted with users for testing to understand users' inconveniences, and continuously improved the website to provide users with the best internet surfing experience and implement a people-oriented approach. The website also introduces the local food, clothing, housing, transportation, education and entertainment in Zuozhen. It also provides a shopping website function for agricultural products and experience activities, assisting the local area in promoting the application model of e-commerce.

Professor Chen, Wen-Sheng of the Department of Business Administration assisted in conducting market and product survey. Through professional market analysis information, data analysis and market surveys, the team provided the best marketing suggestions for local agricultural products in Zuozhen. Professor Chen, Yu-ming of the Department of Cultural and Creative Industries assisted in the packaging design of agricultural products. With years of experience in design and exhibition management, he provided suggestions for the design of local agricultural products such as maranta arundinaceae powder, maranta arundinaceae noodles, red turmeric powder, cordia dichotoma, and marigold tea. He also referred to the research and development achievements of two other professors to work on the packaging design and hit shelves of agricultural products. This aims to help users gain a better understanding of Zuozhen's agricultural products, attract more tourists to experience cultural tour of Zuozhen, and spread the reputation of Zuozhen to achieve urban-rural revitalization and development.



▲ Teachers and students interact with the community to compile local development issues (left)



▲ Exhibition of Zuozhen's agricultural products (middle, right)



NKUST Introduced Smart Vehicle-to-everything Technology to Assist in the Planning of Low-carbon Travel in Liuiqu Island



NKUST's Center for Innovation and Entrepreneurship Education, Department of Industrial Design and Department of Information Management has jointly promoted the "Simple Living and Travel: Internet of Vehicles Project for Liuiqu Island" since 2020, and cooperated with local electric vehicle rental operators in Liuiqu Island to introduce vehicle-to-everything technology and develop a diverse smart internet of vehicles to achieve real-time interaction with users, which is beneficial to the vehicle rental industries for signal transmission and collection, thereby flow analysis of tourist attractions and visitors can be conducted, promoting unique local low-carbon travel. Sung, I-Jen, Chair of the Department of Industrial Design, and Frank Yen-Ming Chu, teacher of the Department of Information Management, collaborated to guide a team of students to design and produce 30 sets of base stations and 100 sets of transmitters for vehicle rental operators of the Liuiqu Island. The team of the Department of Information Management designed the software equipment of the transmitters, while the team of the Department of Industrial Design designed the appearance of the base stations with the feature of the Liuiqu Island for the software equipment, ensuring that they not only have the function of intelligent real-time reception, but also have aesthetic appearance.

The exterior appearance design of the base station transmitters includes a solar charging module, an IoT Network module, and a colorful engraved acrylic sign. The acrylic signs were laser engraved and infilled with colors. There are eight colorful patterns in total, which show features of scenic spots in the Liuiqu Island, including White Lighthouse, Houshi Fringing Reef, Black Devil Cave, Shanfu Fishing Harbor, Lobster Cave, Vase Rock, Wild Boar Ditch, and Sunrise Pavilion. In addition to these patterns, 22 general designs featuring sea turtles as the main pattern are also proposed. Since the implementation of the project, there have been multiple rounds of discussions with the Liuiqu Township Office and operators to understand their needs and propose solutions. The team has continuously monitored the operation and updated the functions based on feedback from the operators. This not only makes the information system gradually more complete, but also facilitates signal transmission and data collection for vehicle rental operators. The data is provided to the Liuiqu Township Office for tourist attractions and visitors analysis in the hopes that it can be used as a basis for improving traffic congestion and analyzing visitor flow at popular tourist attractions during holidays. Additionally, local cuisine and tourist attractions are integrated into promotional materials to promote low-carbon travel with local features.



▲ NKUST's teachers and students team from the Department of Industrial Design and the Department of Information Management set up base stations in the Liuiqu Island (left)

▲ Exterior appearance design of base station transmitters (sea turtle and Sunrise Pavilion) (middle)

▲ Acrylic sign with Vase Rock pattern (right)

XR Learning in Action: Cooperative Development of Online Teaching Materials with Elementary Schools



The "Promoting Agricultural Electronics and Information Education Combined with Food and Agriculture Education in Disadvantaged Elementary and Junior High Schools," promoted by NKUST's University Social Responsibility Hub (USR HUB) and a living technology education curriculum, has been joined by a total of eight rural elementary schools, including ShinShing Elementary School in Tianliao District, Kaohsiung City. To bridge the digital gap between urban and rural areas, NKUST's Professor Horng, Mong-Fong of the Department of Electronics joins hands with Associate Professor Lin, Huang-Yao from the Department of Cultural and Creative Industries to lead students of the Department of Electronics and Electronic Engineering to collaborate with elementary school teachers in developing programming, XR online teaching materials, and instructional videos. This project aims to bring programming education to rural areas and promote its deep integration.

Currently, ten programming teaching material units, five XR instructional videos, and ten teaching material units have been developed, including: Blinking Heart, Electronic Pet, Blowing, Wireless Transceiver, I Want to Eat Pizza, LOVE METER, Paper Rock Scissors, Balance Board Game, Music Remote Control, and Space Shooting Game (Galga). These curriculum

designs can be combined with physical circuit boards and online virtual circuit boards for programming block-based instruction, integrating software and hardware learning methods. In addition, the immersive teaching provided by XR technology is livelier and can arouse students' concentration and interest in learning.

Currently, the developed course materials are provided to partner schools through YouTube and the Institute for Information Industry's StemUP platform. In the next phase, more elementary school teachers will be invited to participate to gradually build a resource library and accumulate a wealth of programming education teaching materials, and curriculum materials created by elementary school teachers will be shared on digital teaching platforms. Currently, we are cooperating with the following elementary schools: ShinShing Elementary School in Kaohsiung City, Shanwei Elementary School in Kaohsiung City, Neimen Elementary School in Kaohsiung City, Lin-Yuan Elementary School in Kaohsiung City, Neiwei Elementary School in Kaohsiung City, Liren Elementary School in Tainan City, Gangpu Elementary School in Kaohsiung City, and Zhonglun Elementary School in Kaohsiung City.



▲ NKUST joins hands with rural elementary schools to develop programming, XR online teaching materials, and instructional videos

4.3 Resource Sharing

4.3.1 Library Resources

To achieve the goal of Kaohsiung Think Tank, the library allows outsiders to access library resources, and has also signed cooperation agreements with local R&D institutions and enterprises to provide virtual library cards that enable them to access library resources and borrow books within the validity period. Readers can make reservations to retrieve and borrow books from other campuses through the library system, and the books will be delivered to the designated campus by school vehicles for readers to pick up without commuting to other campus libraries. In addition, the library subscribes to or purchases databases and e-books every year to provide readers with online access. The library also organizes related promotional activities to encourage readers to make more use of electronic resources, which allow readers to access library resources at home or outside without being limited by the physical library hours and distance of the library. At the same time, various methods of interlibrary cooperation, such as the Nationwide Document Delivery Service (NDDS), the "Interlibrary Borrow-Returning Service" and "Virtual Library Card Service" provided by the Southern Library Resource Sharing Service Platform, as well as the interlibrary cooperation library cards signed with multiple schools, are used to share library resources among various universities and colleges in a diverse way.

4.3.2 Campus Artistic and Cultural Activities

The campus is not only a place for learning expertise, but also an important environment for cultivating aesthetic literacy. Through the creation of vibe and atmosphere, NKUST has developed a versatile venue that combines audiovisual capabilities with lecture and exhibition spaces, which includes art galleries, concert halls, and conference rooms, catering to various artistic performance needs. The Arts Center at the Nanzih Campus is a multifunctional complex art and culture space that offers a variety of activities such as exhibitions, concerts, and workshops. The International Conference Hall has also been upgraded and become a medium-sized arts performing space in Northern Kaohsiung. The Arts Center at the Jiangong Campus has been transformed into a splicing combination of various arts and cultural ecosystem, providing spaces for exhibitions, performances, and small-scale collections. The improvement construction project was completed in 2022. The campus is adorned with installation art, elegantly situated in various campuses, serving as a place of respite for teachers, students, and the public to draw inspiration and nourish their aesthetic senses. It also enriches the metropolitan area of Kaohsiung with abundant artistic and cultural elements.

Statistics of Collection of NKUST's Library

Unit: Book

Resource Type	Chinese	Foreign Language	Total Number of Volumes (Types)
Printed books	670,460	171,322	841,782
E-books	280,775	1,054,998	1,335,773
Print journals	4,585	3,146	7,731
Bound journals	79,198	47,093	126,291
Electronic journals	10,709	40,325	51,034
Database	196	219	415
Non-book materials	73,531	18,274	91,805

The Only National Young Artist Collection Calling for Submissions - "Young Artist Award"

Since 2019, NKUST has been organizing collection competition for young artists to submit their works every year, and the fourth competition was held in 2022. This competition has become a prestigious fine art and visual arts competition for young artists in Taiwan, as well as a stage for emerging talents in the art world. In order to encourage creation, the award money for the "Gold Award" in 2022 had been increased to NT\$300,000, and a "Sculptural Art Special Award" had been added, with the award money of up to NT\$200,000. A total of 502 entries were submitted for the fourth Young Artist Award, and 42 outstanding works were selected, covering various media such as oil painting, gouache painting, ink painting, printmaking, and sculpture. Through the Young Artist Award, we continue our vision of nurturing talent on campus, connecting art with different fields, shaping a better art environment and mechanism, and contributing to the development of art in Taiwan.

► 2022 Fourth Young Artist Award Ceremony



Regular Artistic and Cultural Activities "Let's Art in NKUST"

In 2022, "Let's Art in NKUST" organized a total of 49 artistic and cultural events, including 11 exhibitions, 21 artistic and cultural performances, two women's film festivals, two ethnographic film festivals, seven workshops, and six lectures. The fifth school anniversary celebration concert of the same year, titled "Setting Sail with Love," was jointly performed by Evergreen Symphony Orchestra and NKUST Wind Band, facilitating an exchange opportunity between a world-class professional orchestra and a student ensemble.



▲ Evergreen Symphony Orchestra performed in collaboration with NKUST Wind Band

Artist-in-residence Program

In 2022, NKUST appointed Director Yu, Chen-Chiu, the art director of "Theatre Space" and a versatile theater artist who specializes in directing, production, and set design, as the artist-in-residence. By inviting outstanding artists to reside on campus, NKUST aims to tightly integrate art and culture with the campus, develop and strengthen teachers' and students' engagement with the cultural industry, and promote campus aesthetic education. This program reflects NKUST's proactive promotion of the core value, "people-oriented approach," of art and cultural education. During the residence period, a number of lectures and workshops were held, and a tailor-made full-length musical was performed by students at the school anniversary celebration event. The whole musical was performed by our students, stunning the audience and marking a new milestone for NKUST.



▲ NKUST's Fifth School Anniversary Celebration Musical Act V: "Dancing Towards Tomorrow"

Meeting Art in Daily Life

"Art is life, and aesthetic sense is literacy." Based on the belief that art education should start from daily life, NKUST brings art into the campus before students make a practice of visiting art galleries for exhibitions and opera houses for performances. This gives students the opportunity to have access to the arts and experience the diverse beauty of the arts. NKUST's Arts Center organizes approximately 50 artistic performances, arts lectures, and handicraft workshops every academic year. We collaborate with platforms such as the Golden Harvest Awards Festival, Women's Film Festival, Ethnographic Film Festival, and National Student Art Exhibition to promote the art and culture of Southern Taiwan. We also invite domestic and international art groups to participate, encouraging both the school and community residents to engage in artistic activities and jointly establish a cultural and artistic village.



▲ Exhibition site of "Tide and Ink - Yu, Tung-Sheng English Calligraphy Exhibition IV"



1. The total expenditure related to arts and culture in 2022 amounted to NT\$34,225,796.
2. A total of 502 entries were submitted for the 2022 Young Artist Award, among which one "Gold Award," one "Sculptural Art Special Award," 20 "Collection Awards," and 20 "Judges' Awards" were selected.

4.4 Barrier-free Campus

The existing campus buildings of NKUST's Jiangong Campus, Nanzih Campus, and Cijin Campus are mostly old buildings with building ages of 20 to 30 years or above. Conducting barrier-free campus environment improvement projects is extremely challenging due to the limitations of the existing architectural space. The early laws and regulations on barrier-free environment were relatively simple, but they have been gradually revised over the years. The current barrier-free environment needs to be reviewed and improved according to the latest laws and regulations, which requires a significant amount of funding for the re-evaluation. Additionally, the barrier-free facilities and equipment that have already been installed in each campus are gradually aging and in need of repair and renovation. Therefore, in addition to complying with the latest laws and regulations to plan and install barrier-free facilities when constructing new buildings, NKUST is actively working on the improvement of old buildings, striving towards the goal of creating a barrier-free campus.

In order to facilitate the daily learning, research, and academic exchange of students and teachers with disabilities, NKUST continues to build a comprehensive learning and living environment. In addition to proactively conducting a barrier-free environment inspections, various improvements are made to existing campus buildings and old equipment, with relevant funds allocated annually for improvement and replacement. According to statistics, since 2007 to date, NKUST has invested NT\$74.64 million to promote barrier-free environment, with approximately NT\$32.21 million received as subsidies from the Ministry of Education.

In 2022, NKUST invested approximately NT\$17.26 million to improve the barrier-free environment and completed the construction of facilities such as accessible restrooms in the College of Engineering of First Campus, accessible restrooms on the first floor of Student Activity Center, and accessible elevators in the Mechanical Engineering Building of Jiangong Campus. It is expected to invest an additional NT\$8.99 million between 2023 and 2024 to improve the barrier-free facilities in Jiangong Campus and Yanchao Campus, including parking spaces (signage), outdoor pathways, entrance and exit of refuge storey, ramps and handrails. Furthermore, NT\$19.20 million will be allocated to improve a total of 18 restrooms in Jiangong Campus, Nanzih Campus, and First Campus, and renovate one all gender restroom between 2023 and 2024.



Approximately NT\$17.26 million in total was invested to improve NKUST's barrier-free environment in 2022.



Accessible elevators in the Mechanical Engineering Building of Jiangong Campus

4.5 University Historical Buildings and Open Space

"North Lecture Building of Former Kaohsiung Institute of Technology" (hereinafter referred to as the North Lecture Building) in NKUST's Jiangong Campus was constructed in 1965. It was the first generation campus building of Kaohsiung Institute of Technology, an important cradle for cultivating engineering and technical personnel in Taiwan, and had significant historical and cultural significance. The building used reversed beams and cantilever plates to form a light exterior facade elevation, which was a rare practice at the time and reflected the style of the era. It was officially designated as a historical building by the Kaohsiung City Government (Kaohsiung City Government Cultural Heritage No. 11030445001) on March 8, 2021.

The North Lecture Building is a design by Taiwanese post-war modernism female architect Xiu, Zelan. In the early days in Kaohsiung, architect Xiu also built the gate of the Provincial Kaohsiung Female Teachers College (now National Kaohsiung Normal University), Kaohsiung Bank of Communications, administration building of Kaohsiung Institute of Technology, and library of Kaohsiung Institute of Technology, among other classic works. However, most of them had been demolished, and now only the North Lecture Building and library of Kaohsiung Girls' Senior High School remain.

The North Lecture Building is a three-story reinforced concrete structure, characterized by its modular column and beam structure, reversed beams and cantilever plates, and semi-circular spiral staircase, which are signature features of Xiu, Zelan. In addition, the W-shaped canopy at the main entrance along the central axis is also a prominent feature of this building. Its cultural heritage value is summarized as follows:

- I. The architectural layout reflects the establishment history of Kaohsiung Institute of Technology and lays the foundation for its campus space use zoning, core shaping, and campus axis formation in its campus space.
- II. It is one of the few remaining works in Kaohsiung by Xiu, Zelan, who is known as the "first female architect of Taiwan."
- III. In terms of architectural style, the use of reversed beams and cantilever plates forms a light exterior facade elevation. The elegant style of W-shaped porch with folding panels and semi-circular spiral staircase adds a soft and graceful image to the appearance. These expressive and decorative features are a testimony to the architectural style of architect Xiu, Zelan.
- IV. The construction method of reinforced concrete with brick and folding panel design preserves the characteristics of post-war educational architecture in the 1950s and 1960s.

Kaohsiung Institute of Technology was the oldest technology institute in Kaohsiung City and a prestigious school in Southern Taiwan. The North Lecture Building, which was the first campus building after its establishment, holds significant historical value in the development of vocational education in Kaohsiung. It is a collective memory for generations of teachers and students, as well as the citizens of Kaohsiung.

In order to promote the spatial activation and utilization of the campus building of the North Lecture Building as a University History Museum for visiting and exhibitions, NKUST has launched the "North Building Classroom Renovation Project." It is expected to complete the restoration project of the building exterior and the renovation and exhibition operations of the interior space of the University History Museum by October 2025. In accordance with the relevant provisions of the Cultural Heritage Preservation Act, three contracting operations have been conducted, including investigation and research and restoration and reuse projects, as well as the commissioning of planning, design, supervision, technical services, and construction for restoration and reuse projects.



▲ North porch, corridor, and W-shaped folding panel canopy



▲ Semi-circular spiral staircase on the south elevation

Open Spaces and Fields

NKUST has a variety of sports venues, including an indoor stadium (with badminton courts), an all-weather court (Teng Hsiung Hall), a weight training room, a gym, a swimming pool, a table tennis classroom, an aerobics classroom, an athletic field (playground), a volleyball court, a beach volleyball court, a basketball court, a tennis court, an ice rink, an archery court, and a softball field. These sports venues are primarily used for physical education classes, training of school representative teams, and school-approved activities, promoting proper sports and leisure.

In addition, the playground, athletic field, and outdoor basketball court are made available for recreational use by residents of surrounding communities, without affecting NKUST's lessons and activities. This promotes sports and leisure, and enhances the physical and mental health and well-being of NKUST's teachers, students, and community residents.



▲ The basketball court at NKUST's Cijin Campus



4.6 International Exchange

Planning and Promotion of Foreign University Cooperation Alliance

In 2022, in addition to actively participating in the activities organized by the Taiwan-Germany University of Science and Technology Alliance (hereinafter referred to as the TALtech-HAWtech Alliance) and the Taiwan-Japan Alliance of Local Revitalization and Social Practice (hereinafter referred to as the Taiwan-Japan Alliance), we also established links with high-quality science and technology schools and college alliances in France through bilateral exchange meetings of the Foundation for International Cooperation in Higher Education of Taiwan and French Office in Taipei, establishing inter-school interaction in the field of scientific research, promoting student exchange for science and technology studies, and increasing internship opportunities.

TALtech-HAWtech Alliance (HAWtech-TALtech)

01

The TALtech-HAWtech Alliance has signed a bilateral exchange agreement since 2017, connecting the Taiwan-Germany University of Science and Technology Alliance system to promote cooperation in five major projects, including exchange students, corporate internships, school field internships, Summer School, and Visiting Tour. NKUST serves as the rotating chairman of TALtech from 2021 to 2022, responsible for coordinating relevant activities of Taiwan universities and acting as bilateral exchange contact. The TALtech-HAWtech online consensus conference was held in 2022, jointly organized by the Taiwan-Germany rotating schools (National Kaohsiung University of Science and Technology and Karlsruhe University of Applied Sciences) to make preliminary plans and discussions on bilateral collaborative activities and projects for 2023 to 2024.

02

The TALtech-HAWtech Alliance Roundtable Meeting and TALtech Rotating Chairman Handover Ceremony were held on the afternoon of December 6, 2022. Due to the impact of the epidemic, HAWtech participated online, while TALtech conducted it physically at NKUST, with a total of 33 participants. In addition to reporting on the Alliance's important works during the meeting, both sides of the TALtech-HAWtech Alliance also shared their experiences on the implementation of Sustainable Development Goals (SDGs), and handed over the rotating chairman of the next session of TALtech and the token sculpture pedestal to the President of National Yunlin University of Science and Technology.

* Taiwan-Germany University of Science and Technology Alliance: The alliance is jointly formed by HAWTech and TALTech, with the former consists of six German universities of science and technology, namely Darmstadt University of Applied Sciences, Karlsruhe University of Applied Sciences, Esslingen University of Applied Sciences, Dresden University of Applied Sciences, Aachen University of Applied Sciences, and Berlin University of Applied Sciences, while the latter consists of six Taiwan universities of science and technology, namely National Taiwan University of Science and Technology, National Taipei University of Technology, National Chin-Yi University of Technology, National Yunlin University of Science and Technology, National Formosa University, and NKUST.

Taiwan-Japan Alliance

01

The Center for University Social Responsibility of the Ministry of Education and the Office of Humanities Innovation and Social Practice Programs of the Ministry of Science and Technology jointly established the "Taiwan-Japan University Alliance Provisional Office" in 2019. After two years of preparation, the core members of six universities (including NKUST) on the Taiwan side and four universities on the Japan side officially established the Taiwan-Japan Alliance in November 2021. It serves as a platform for promoting the exchange of social practice experiences between universities in Taiwan and Japan, aiming to build a multi-directional university exchange network that facilitates the mutual sharing of resources and deep engagement with local communities. By integrating practical work with teaching and research to address local issues, it becomes a driving force for local revitalization.

02

NKUST actively participates in the annual alliance projects, including newsletters, practice-based workshops, seminars, community/corporate cooperative internships, and other related activities. It also encourages departments to promote international cooperation, invite professors from alliance schools to give lectures, and organize international seminars. Regular alliance meetings are held every year to discuss the operation of the alliance, the New Praxis and Taiwan-Japan Alliance Conference, and collaborative publishing projects with the Ocean Policy Research Institute - Sasakawa Peace Foundation (OPRI-SPF). In 2022, two online bilateral meetings, two workshops, and two international collaborative courses were held (NKUST College of Marine Commerce gave one collaborative course with Chiba University and Kochi University, respectively). Regular alliance meetings are held every year to discuss the operation of the alliance, the New Praxis and Taiwan-Japan Alliance Conference, and collaborative publishing projects with the Ocean Policy Research Institute - Sasakawa Peace Foundation (OPRI-SPF).



▲ 2022 Taiwan-Japan Alliance USR "Good Fish Next Door" Project Participated in Exhibition in Japan



▲ 2022 Taiwan-Japan Alliance USR Joint Training Forum

International Industry-academia Cooperation and Exchange



A total of 10 international industry-academia projects were implemented in 2022

Total contract amount of NT\$ 5,325,659

Contracting countries of Austria, the United States, Germany, Vietnam, and Singapore

To strengthen international academic exchange and talent cultivation, starting from the "Local Revitalization Studies" course in 2022, NKUST has invited Associate Professor Shingo Akaike from Kochi University, Professor Masayuki Suzuki from Chiba University, and Vice President Yasuto Hayashi from Shinshu University to deliver English lectures. The required courses of both programs were upgraded to English taught courses in August, 2022, and Associate Professor Shingo Akaike from Kochi University and Professor Masayuki Suzuki from Chiba University were invited to co-teach in English. Meanwhile, the projects also train foreign students as teaching assistants to assist in teaching and general affairs during classes. They will also participate in the overseas internships of 2023 Kochi University and Chiba University local revitalization courses and other related courses to assist in the implementation and promotion of international cooperation courses on local revitalization.

Statistics of International Exchange

I. Exchange Students and Double Degree Programs (Outbound and Inbound)

In the second half of 2022, the international epidemic gradually eased, and border controls were gradually lifted. In terms of international exchange programs and double degree programs, there were three inbound exchange students and one inbound double degree program student in 2022. The number of NKUST students studying abroad is also gradually increasing. In 2022, there were a total of 42 exchange students and 18 double degree program students studying abroad. Germany and Japan were the main countries for exchange and training programs, while the United States was the primary country for double degree programs. The target schools for exchange students are mostly alliance member schools of TALtech-HAWtech Alliance, an alliance between NKUST and Germany. This not only promotes exchanges between schools, but also helps cultivate talents with international perspectives and knowledge of advanced industries in Continental Europe. In 2022, many students also chose to participate in exchange programs at partner schools in Malaysia and the Philippines, expanding the area of countries for student exchanges and enhancing cooperation and exchanges between NKUST and the New Southbound countries.

II. Short-term Study Abroad Program for NKUST Students

To stimulate the motivation of NKUST students toward participation in international learning, NKUST regularly holds international education exhibitions, organizes international lectures, and formulates various incentive measures. We also create diverse opportunities for international exchanges, including overseas exchange programs, double degree programs, short-term training programs, overseas English camps, international volunteers, overseas internships, teaching observations, publishing papers abroad, and participating in international competitions, which encourage students to study abroad for experiential learning and expand their international perspectives. In the second half of 2022, as the COVID-19 pandemic gradually eased, countries lifted border controls, allowing students to resume physical traveling abroad. A total of 226 NKUST students participated in learning activities on enhancement of international mobility in 2022, either online or domestically.

Overseas internships

NKUST's overseas internship programs includes various internship opportunities in different areas. From 2018 to 2021, more than 500 students were successfully matched for overseas internships. However, due to the escalating overseas epidemic since 2020, overseas internships were almost completely suspended. As the epidemic has been easing since 2022, a total of 504 students have completed their internships. The main internship countries are Germany, Japan, and Southeast Asian countries.

Short-term study abroad camps

A total of 31 students participated in short-term camps and competitions organized by partner schools in 2022, such as the Winter Camp at MCI Management Center Innsbruck - The Entrepreneurial School in Austria, the Engaged/Exchange Online Learning "KU-EOL" Program at Kansai University in Japan, the International Summer Camp at Darmstadt University of Applied Sciences in Germany, summer courses at Friedrich Schiller University of Jena in Germany, the Cycling Around Shikoku Project of Ehime University in Japan, and the Robot Camp at Hochschule für Angewandte Wissenschaften Würzburg-Schweinfurt (FHWS) in Germany. Through these study and training activities, we deepened our exchange with partner schools and cultivated students' international mobility. 12 students participated in overseas seminars and competitions in 2022.

Soar camp

NKUST has been organizing the SOAR Study Abroad Summer Overseas English Camp since 2017, which combines immersive teaching with cultural experience activities through off-site courses to cultivate NKUST students' international communication skills. The total number of participants has reached 413 people. Due to the severe impact of the epidemic, the camp was conducted domestically and through online cooperative teaching with our partner schools in the Philippines from 2020 to 2022. A total of 163 students participated.



▲ 2022 SOAR Study Abroad Summer Overseas English Camp

International volunteers

NKUST has been organizing the SOAR Study Abroad Summer Overseas English Camp since 2017, which combines immersive teaching with cultural experience activities through off-site courses to cultivate NKUST students' international communication skills. The total number of participants has reached 413 people. Due to the severe impact of the epidemic, the camp was conducted domestically and through online cooperative teaching with our partner schools in the Philippines from 2020 to 2022. A total of 163 students participated.



▲ 2022 International volunteer camp (left: Jiadong Junior High School, right: Keliao Elementary School)

International experiential learning

In the face of global deployment, cultivating students' cross-cultural and global mobility capabilities is one of the indispensable elements for having a foothold in the international competitive stage. NKUST has been promoting the implementation of international experiential learning program since the 2017 academic year. It combines general education courses with systematic curriculum design and problem-based learning methods, and its main axis is the sustainable development of urban and rural areas in Asian countries. Through in-depth exploration and comparative understanding of important cross-cultural issues in Taiwan and other Asian countries, it guides students to independently plan interdisciplinary international experiential learning projects, and provides students with opportunities to go to Asian countries for international participation and exploration. Since the implementation of this program in the 2017 academic year, nearly 150 students have been sent abroad for completing grand tour. In response to the temporary suspension of international travel due to the pandemic, this program continued to promote international experiential learning program in collaboration with Center for the Liberal Arts, encouraging students to engage in self-directed learning, and advisers guiding them by a progressive approach of thinking and feedback to develop grand tour plans.

III. E-Passport to Global Learning

To motivate NKUST students to actively participate in various international learning activities, we cultivate students to have four core international competencies: communication skills, adaptability, professionalism, and practical ability. NKUST starts to promote the E-Passport to Global Learning since 2021, which utilizes a passport learning certificate mechanism to record various international learning activities participated in, international learning trajectories, and participation preferences during schooldays, and analyze core international competencies to gain a deeper understanding of the effectiveness of international learning. The system has gone live since April 1, 2021, and a total of 1,073 students have registered to make use of it as of 2022.



**One-touch International Pass
NKUST International Learning
E-Passport**

Step 1.
Log in the learning e-passport

Log in with the account and password of the school administration system



Check My International Competencies

Click on "My International Competencies" to check the analysis of one's own international competencies, and the proportion of categories of international participation.



Step 2.
Select courses

Click on "International Empowerment Courses," and check courses or activities that one is interested in



Check Selected Courses

Click on "International Footprints" to check courses that one has selected, and to check whether selected courses have been successfully signed in.



Step 3.
Register courses/activities

Register courses on the same page after selecting courses

**Note: Remember to complete the registration of a course on the web page of the college of your choice!*



For more information, please check the International Learning E-Passport section.



Step 4.
Sign in for courses

3 minutes prior to the course/activity, click on "Signing in for the Course" and upload the photo of signing in for the course.

**Note: The photo must be clear with the image of the person taking the course.*





Organizer



NKUST



Office of International Affairs (OIA)



**Steps for the E-Passport System
Guide for International Students**

IV. Overseas Students Visits/Short-term Exchanges

In order to facilitate campus internationalization, NKUST promotes the organization of international camps that combine the characteristics of departments, integrating the camp courses with expertise fields and incorporating cultural experience activities. In addition to providing foreign students with diverse training channels for academic enrichment, it also provides an opportunity for domestic students to engage in dialogue with foreign students from various countries, expanding their international perspectives through cross-cultural exchanges. Affected by the epidemic in 2022, there were no physical groups to study and train in Taiwan. However, NKUST still actively engaged in exchanges with international partner schools, organizing camps that combine the characteristics of departments, integrating expertise fields, and incorporating cultural experience activities. This provided an opportunity for domestic students to engage in dialogue and exchange with foreign students from Japan, China, and Russia, allowing them to discover themselves and broaden their international perspectives. Four international camps were organized in 2022, with a total of 197 participating students.

V. NKUST Faculty Going-abroad

To enhance international research capabilities, NKUST provides subsidies for faculty members to study abroad, engage in research, give lectures, visit, and attend academic conferences, collaborate with international scholars in supervising graduate students, and jointly publish journal papers. A total of 18 individuals participated in international academic cooperation and exchanges in the 2021 academic year. Among them, 14 teachers participated in physical international academic conferences, two teachers participated in online international seminars, two teachers led students to participate in the summer courses at Friedrich Schiller University of Jena in Germany, and one teacher led students to participate in the Robot Competition in Würzburg, Germany. In 2022, one teacher led a team to go abroad to participate in a short-term exchange activity of robot workshop at Hochschule für Angewandte Wissenschaften Würzburg-Schweinfurt (FHWS), a partner school in Germany.

VI. Overseas Scholars Visits

Departments are encouraged to invite foreign scholars for collaborative lectures, exchange visits and joint research, and set up themed micro-credit courses and special lectures, so that students without study abroad experience can also experience internationalized learning model, deepening and diversifying partner schools cooperation model and enhancing the school's international visibility. Due to the pandemic, most of the courses were conducted online in 2022. A total of six departments participated in inviting 12 overseas scholars for short-term lectures, presentations, and international academic collaborations.



International Buddy Management and Training

NKUST recruited and trained a total of 29 international friends in 2022 to assist newly arrived overseas students in adapting to schoolwork and provide life adaptation consultation after arriving in Taiwan, so as to help overseas students integrate into life in Taiwan as soon as possible.

To promote in-depth exchanges between NKUST international students and domestic students, a youth forum was held, inviting 10 international students and 20 domestic students to form groups to discuss the following topics: New Generation Media Literacy, New Generation Democratic Credentials, and New Generation Ethics. Through a three-stage training process consisting of topic exchange, deliberation training, and consensus formation, international students and domestic students expressed their opinions and shared experiences from respective countries on different topics. On the day of the forum, each group presented their implementation plans. There were approximately 200 attendees at the forum, and the reports from each group were also published in Global Views Monthly. Among them, the leader of the New Generation Ethics Group was NKUST's international exchange student.

Statistics of International Exchange in 2022

		Exchange students	NKUST students*	NKUST faculty	Double degree program
Outbound		42	75	19	18
Inbound		Exchange students 3	Overseas students visit 197	Overseas scholars visit 12	Double degree program 1
		International volunteer services / 120			



NKUST implemented a total of 10 international industry-academia projects in 2022, with a total contract amount of NT\$5,325,659.

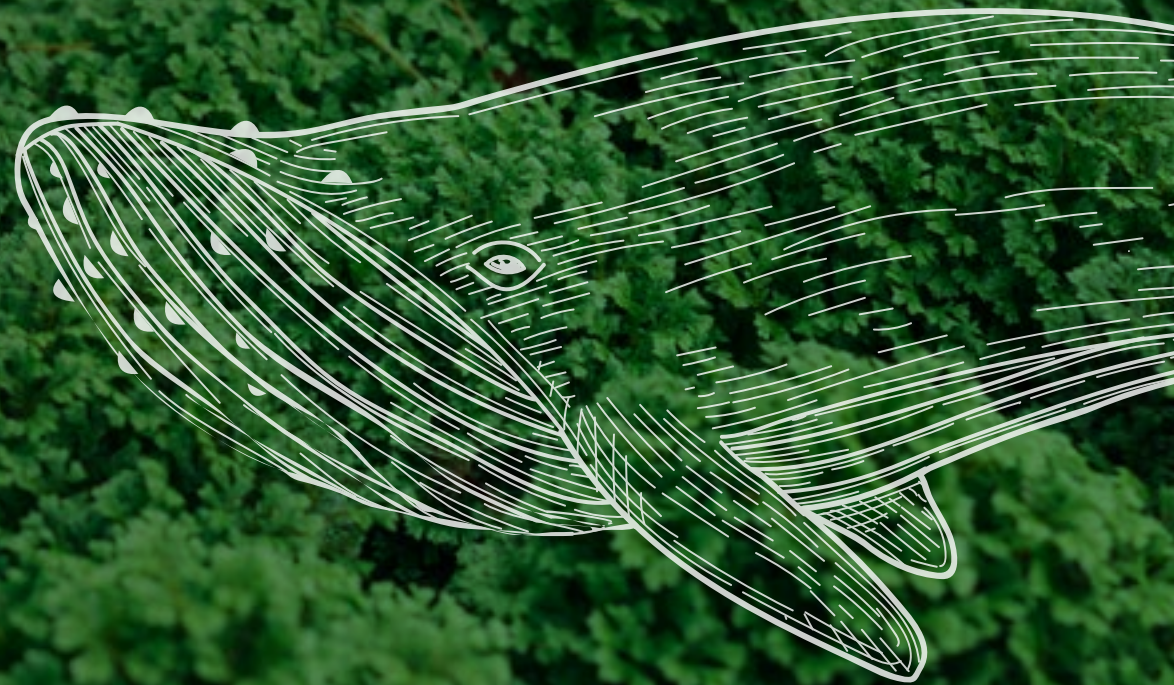
* Including short-term camps, seminars, competitions, overseas internships, international experiential learning, and so on.

CHAPTER 5

Green University



- ⑤.1 Smart Campus
- ⑤.2 Greenhouse Gas and Energy
- ⑤.3 Air Quality and Environmental Monitoring
- ⑤.4 Water Management
- ⑤.5 Waste Management
- ⑤.6 Green Energy Transportation
- ⑤.7 Campus Ecology
- ⑤.8 Green Building
- ⑤.9 Green Procurement





5.1 Smart Campus

With the advent of the information age, technology and digit have become an integral part of modern life. In addition, the impact of COVID-19 has made digital transformation one of the most critical issues in recent years. Against this backdrop, NKUST has begun to consider how to enhance the convenience, safety, and energy efficiency of campus life by leveraging the advantages of digital technology with campus life as the main axis. In view of this, NKUST has undertaken evaluation, research, and introduction of smart campus projects in six key aspects: energy saving and control, campus safety, transportation, convenience of life, e-administration, and smart communication in recent years. Through the model of IoT devices, cloud computing, and digitization, we aim to provide faster campus services to all teachers, students, and administrative units, breaking down geographical barriers between different campuses. This approach not only enhances efficiency in various aspects but also reduces unnecessary waste, indirectly achieving the benefits of energy saving and carbon reduction.

Development of 6 Key Aspects for Smart Campus Projects

Energy saving and control

Smart classroom and meeting room management system

- Resolve the access control for general courses and meeting rooms.
- Supplemented by the power management system combined with intelligent scheduling management, the power supply of the space will be turned off during periods when there are no classes or when it is not being used to avoid unnecessary energy waste.
- The aforementioned sites are equipped with access control devices to manage and record the electricity supply to light, air conditioner, and other equipment.
- The total number of establishments was 196 rooms as of 2022, with addition of 79 rooms in 2022.

Campus safety

Cross-campus surveillance integration system

- The system autonomously monitors each camera and proactively reports any abnormalities or malfunctions. This allows for effective and prompt management of the operating status of the equipment, as well as the provision of automatic retrieval function for surveillance footage.
- It reduces the amount of time spent by personnel in assisting with the retrieval of surveillance footage, and for handling campus cases, video files can be provided to the responsible units more quickly, thereby assisting in shortening the timeline to solve a case.
- By improving the campus security surveillance system, campus facilities can be properly maintained and preserved to obtain substantial benefits and realize efficient management of property resources.
- The "Cross-campus Camera Replacement, Expansion, and Surveillance Storage Server System Integration Project" was completed in 2022. It aims to enhance the current surveillance system by expanding and replacing the cameras and digital video recording hosts in certain buildings' entrances and exits, stairs, corridors, and blind corners, or areas identified as having security concerns through evaluation in each campus.

Transportation

Parking space indicator system

- For each parking area in the Jiangong Campus and First Campus, the remaining number of parking spaces is separately counted, and the statistics are instantly synchronized to the corresponding outdoor LCD smart signage.
- Reducing the need for drivers to drive around searching for parking spaces can effectively reduce fuel consumption and time waste of repeated circling around the campus. It is estimated that the indicator system reduces the carbon emissions of Jiangong Campus and First Campus by 276 kg per day*.

* Assuming that vehicles emit 1.15E-001kgCO₂e per kilometer, there were approximately 1,200 vehicles entering First



Convenience of life

Smart Cloud iPOS System

- By using NKUST self-developed Smart Cloud iPOS System, it is possible to pay various administrative fees through mobile multiple payments.
- The system automatically arranges documents, and after confirmation and approval by the personnel of General Administration Division, the system automatically prints the application documents. Students can pick up the documents in person after receiving automated message notifications, or the documents can be sent to the applicant by mail. The complete automation process is more efficient and significantly reduces waiting time.

E-administration

New version of affairs application system

- Faculty members, staff, and students can apply for various administrative services of the General Administration Division, including vehicle access control for events, hanging promotional flags, displaying multimedia signage, refunding of air-conditioning cards and parking permit, and canceling traffic violations records for faculty members, staff, and students, through the system.
- Replace application method of hard copy approval process with electronic approval process to improve administrative efficiency.

Enrollment information viewing system

- In order to prevent hard copies from being damaged and unable to be checked and to extend the preservation period of hard copies, digitalization and scanning of enrollment information hard copies have been conducted, and are imported into the hard copy data digitalization system.
- Allows each campus to check enrollment information over the years to reduce the time spent on manual searching of hard copy documents and enhance overall administrative efficiency.

Smart communication

Cross-campus exchange system integration

- The update and interconnection of the telephone systems were completed, and the telephone exchange equipment was replaced at the five campuses between 2018 and 2021.
- Standardize the telephone exchange equipment across the five campuses to maintain phone call stability.



Through intelligent management, smart meeting room and classroom management system reduces the cost of manpower, electricity, space and paper in operation and maintenance costs. This results in an annual cost savings of approximately NT\$4.40 million for NKUST's operation and maintenance costs. The intelligent system not only evaluates the electricity usage in various sites to enhance electrical safety, but also records detailed information on the entry and exit times and personnel of the sites in order to maintain site safety.



5.2 Greenhouse Gas and Energy

5.2.1 Energy Saving Policy

In response to the trends of global climate change and resource scarcity, environmental awareness in countries around the world has risen, driving the rise of green economy and sharing economy such as energy saving, low carbon, and recycling and reuse. As a member of global citizens, it is important to consider how to incorporate the spirit of green campus into each campus through effective practical actions, guiding teachers and students to adopt a low-carbon lifestyle and utilizing the advantages of spacious campuses, as well as the campus ecological environment and natural landscapes to actively construct and develop new concepts of green environmental protection.

NKUST continues to promote energy saving goals and implementation plans, reducing overall electricity usage through measures such as central air conditioning control, replacement of energy-efficient lighting fixtures and transformers, and the introduction of renewable energy source. The electricity usage over the past three years also provides a clearer picture of the relevant specific actions taken by NKUST. According to statistical data, the total electricity consumption in 2022 was 40,675,876 kWh, and the floor area within the scope of energy statistics was 579,050 square meters. Based on these statistical data, the energy use intensity (EUI) is calculated to be 69.1. The total electricity consumption in 2022 has been decreasing year by year compared to the past. However, due to the impact of the pandemic in 2021, NKUST arranged online teaching as the main teaching mode from mid-May to the end of September, resulting in a relatively lower total electricity consumption in 2021. In addition, NKUST actively replaced old fluorescent tubes and air conditioners more than 9 years, and implemented relevant energy-saving measures. In 2022, the total annual electricity savings from replacing 367 air conditioners more than 9 years amounted to 334,011 kWh.

To promote the efficient use of campus energy, NKUST has established the "Energy Saving Promotion Team" to improve the effectiveness of energy saving on campus and create a sustainable smart campus. The specific tasks of the team are as follows:

- I. Formulate energy saving goals and implementation plans.
- II. Discuss energy saving improvement countermeasures and measures.
- III. Control and evaluate the energy saving promotion matters of each unit.
- IV. Propaganda, education, and training on energy saving matters.
- V. Other matters related to energy saving.

Greenhouse gas emissions in the past 3 years

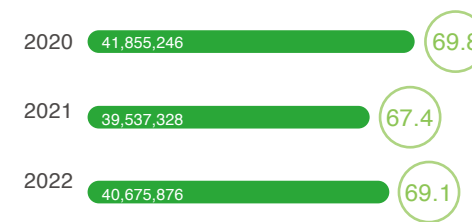
Unit: MTCO₂e

- Scope 1¹: Direct greenhouse gas emissions
- Scope 2²: Energy indirect greenhouse gas emissions



Electricity consumption and Energy Unit Index (EUI³) in the past 3 years

- Electricity consumption (kWh)
- Energy Unit Index (EUI) (kWh/square meter)



1. The direct reduction in greenhouse gas emissions due to the adoption of reduction measures was 979.1 MTCO₂e in 2022.
2. The direct reduction in energy consumption due to the adoption of energy-saving measures was 7120.8 gigajoules (GJ) in 2022.

*1. Scope 1 refers to direct emissions from processes or facilities. Scope 1 only calculated greenhouse gas emissions from mobile emission sources (school vehicle fuel) in 2020 and 2021. The calculation scope of Scope 1 included mobile emission sources (school vehicle fuel), fugitive emission sources (sewage discharge sources) in 2022.

*2. Scope 2 refers to indirect emissions generated from energy utilization using electricity or steam. NKUST uses the calculation method of electricity consumption in 2022 multiplied by carbon emission factor of 0.495.

*3. EUI is the abbreviation for Energy Unit Index, and its statistical scope covers a floor area of 579,050 square meters.

5.2.2 Solar Power Generation

According to the Renewable Energy Development Act, the promotion target for renewable energy power generation equipment by 2025 is a total capacity of over 97,200 GJ. The "2020 Photovoltaic 23,400 GJ Standard Achievement Plan" of Bureau of Energy, Ministry of Economic Affairs sets a long-term photovoltaic installation goal of reaching 72,000 GJ by 2025, with 21,600 GJ from roof PV systems and 50,400 GJ from ground-mounted PV systems.

NKUST currently has installed photovoltaic systems, which can be divided into the following 4 types. In 2022, a total of 1,978,009 kWh of electricity was generated:

- I. Charges for self-built system which sold to Taipower: The photovoltaic equipment installed at the Yanchao campus with a capacity of 1.7971 GJ was sold to Taipower (generating 639,296 kWh in 2022).
- II. Roof rental income: The First Campus rents the roof to manufacturers for the installation of photovoltaic equipment with a capacity of 1.6109 GJ and sold to Taipower with rebates of 10.5% (generating 592,769 kWh in 2022).
- III. Self-built power generation for own use: The solar power generation system installed at the First Campus swimming pool has a capacity of 0.1471 GJ, while the solar power generation system installed at the Nanzih Campus shipbuilding training workshop has a capacity of 0.0085 GJ. In addition to grid-connected internal power generation for own use, renewable energy certificates are also publicly available for sale and transfer. (Certificates issued by the Renewable Energy Certification Center, Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs. Every 1,000 kWh generated is one certificate. Based on the number of certificates, it is estimated that 32,000 kWh was generated in 2022.)
- IV. In addition, in accordance with the central government's policy of 2021 Kaohsiung City Central Government Public Roof Joint Bidding and Leasing Project, suitable building roof areas in the Jiangong Campus, Nanzih Campus, Cijin Campus, and First Campus were selected for installation, with a total photovoltaic capacity of 10.7271 GJ. The Nanzih Campus completed the grid-connected internal operation on January 7, 2022, with an annual power generation of 713,944 kWh in 2022. The grid-connected systems of the other campuses were completed in January 2023.



Renewable energy facilities and generation capacity, renewable energy certificate purchases in 2022

Unit: kWh

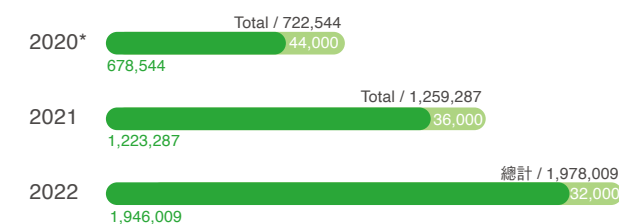
Renewable Energy Facilities	Renewable Energy Generation	Green Electricity Certificate Generation
Establishing photovoltaic facilities on its own and selling electricity to Taipower (Yanchao Campus) 1.7971GJ	639,296	0
Rental of roof to external manufacturers' photovoltaic facilities for electricity generation (roof of the College of Electrical Engineering and Computer Science building, roof of Practical Factory 1, roof of Practical Factory 2 at the First Campus) 1.6109GJ	592,769	0
Self-generated electricity for own use and certificates sale (e.g., roof PV systems and ground-mounted PV systems of the First Campus swimming pool) 0.1447GJ	0	32,000
Kaohsiung City Central Government Public Roof Joint Bidding and Leasing Project 10.7271GJ	713,944	0
Total	1,946,009	32,000

Renewable energy usage in the past 3 years

Unit: kWh

● Renewable energy generation

● Green electricity certificate generation



* The renewable energy generation in 2020 did not include the calculation of the rented roofs.



NKUST currently operates photovoltaic systems through three methods: charges for self-built system which sold to Taipower, roof rental income, and self-built power generation for own use. The total electricity generated in 2022 was 1,978,009 kWh, an increase of approximately 719,722 kWh compared to 2021.

5.3 Air Quality and Environmental Monitoring

In accordance with the promotion of the Indoor Air Quality Act, NKUST has formulated indoor air quality maintenance and management plans for each campus and appointed resolute personnel for maintenance and management, and regularly conducts indoor air quality analysis. NKUST's declared control area is the library. Generally, the concentration of pollutants in the air is reduced by opening windows or enhancing ventilation. Self-inspection of air quality is conducted every six months and regular analysis is conducted every 2 years.

NKUST conducted biennial indoor air quality analysis at the First Campus and Jiangong Campus in 2022 in accordance with the Indoor Air Quality Act. The analysis reports of each campus met the regulatory standards and received a good rating. Relevant information can be found on NKUST's Environmental, Occupational Safety and Health Center website..



indoor air quality
analysis results

Items and Methods of Indoor Air Quality Analysis

Carbon Dioxide (CO₂)

Infrared Method (NIEA A448.11C)

Particulate Matters (PM₁₀)

Beta Ray Attenuation Method (NIEA A206.11C)

Formaldehyde

High Performance Liquid Chromatography (HPLC) of DNPH Derivative (NIEA A705.12C)

Bacteria

Concentration of Germs in the Air Testing Method (NIEA E301.15C)



▲ Indoor air quality periodic inspection (bacteria) at Western Stacks Reading Area, 3rd floor, Library and Information Center, First Campus



▲ Indoor air quality periodic inspection (CO₂, PM₁₀, Formaldehyde) at Current Periodicals Area, 2nd floor, Library and Information Center, First Campus

Campus Environmental Monitoring

In order to ensure that the development projects of the First Campus and Yanchao Campus do not worsen the environmental quality of the surrounding areas during operation or construction, NKUST has implemented an environmental monitoring plan based on laws and regulations for water pollution control, air pollution control, noise control, and the commitments stated in the environmental impact statement. This plan aims to establish a consistent monitoring system and conduct regular testing and tracking assessments on relevant items that may impact the environment to achieve the following objectives:

- I. Establish or supplement long-term background information on environmental quality to assess the long-term trend of environmental quality changes.
- II. Evaluate the implementation effectiveness of countermeasures to mitigate or avoid adverse impacts, and propose revisions or remedial measures accordingly.
- III. Construction plans or operational policies shall be adjusted in a timely manner to reduce the impact on the environment according to the monitoring results. All monitoring reports can be found on NKUST's Environmental, Occupational Safety and Health Center website.



NKUST's Environmental,
Occupational Safety and Health
Center website.

5.4 Water Management

The total water consumption of the school in 2022 was 595,549 m³ and has been decreasing year by year compared to the past. However, due to the impact of the pandemic in 2021, NKUST arranged online teaching as the main teaching mode from mid-May to the end of September, resulting in a relatively lower total water consumption in 2021.

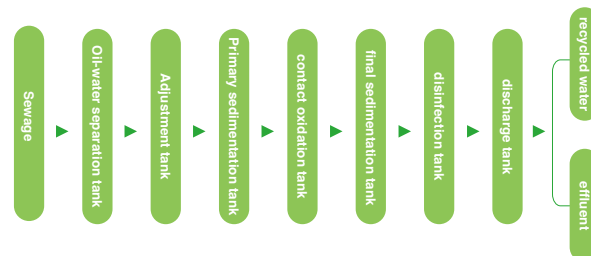
NKUST has sewage treatment plants in the First Campus and the Yanchao Campus. The sewage treatment procedures comply with the standards for effluent. After treatment, part of the water is recycled for green area irrigation or injected into the ecological pool for reuse, while the rest is discharged. Meanwhile, the other campuses have already been incorporated into the sewage piping system. The relevant introduction and treatment capacity of the sewage treatment plants in the two campuses are as follows:

First Campus

- ③ The main sewage sources of the East Campus' sewage treatment plant are domestic sewage from the teaching area buildings and laboratory washing sewage. After treatment every day, approximately 5 m³ of recycled water are used for green area irrigation, and the rest, approximately 238 m³, is discharged. The annual treatment capacity is approximately 88,695 m³.
- ③ The secondary sewage treatment facility on the underground floor of Jingye Building in the West Campus mainly treats domestic sewage from student dormitories. The daily sewage inflow is approximately 53 m³, which is treated and injected into the ecological pool for reuse as effluent. The annual treatment capacity is approximately 19,789 m³. The sewage generated by the Lequn Building in the West Campus is treated and discharged, and the annual treatment capacity is approximately 28,509 m³. The total annual treatment capacity of the West Campus is approximately 48,298 m³.

According to the statistics, the total volume of recycled water for reuse in 2022 was approximately **21,614 m³**. Approximately 1,825 m³ in the East Campus and 19,789 m³ in the West Campus

The campus sewage treatment procedure at the First Campus is as follows:

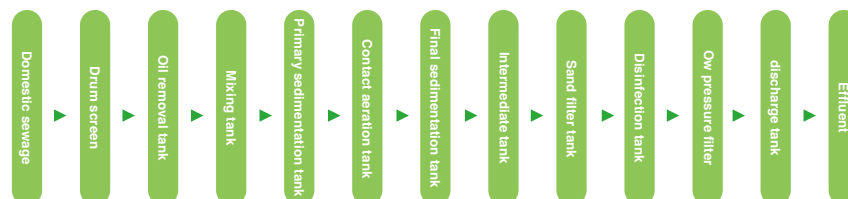


▲ Sewage treatment plant at the First Campus

Yanchao Campus

A sewage treatment plant is established in the Yanchao Campus, with the main sources of sewage being the domestic sewage from each teaching buildings and dormitories. The annual treatment capacity of the sewage treatment plant is approximately 25,925 m³, and the treated sewage is discharged to the tributary of the Dianbao River.

The sewage treatment procedure at the Yanchao Campus is as follows



▲ Sewage treatment plant at the Yanchao Campus

5.5 Waste Management

To maintain cleanliness and hygiene of the campus environment and provide a good teaching, learning and research environment for NKUST teachers and students, we adhere to the regulations set by the Environmental Protection Administration of Executive Yuan (restructured as the Ministry of Environment on August 22, 2023), including the Waste Disposal Act and the Resource Recycling Act. We continuously promote waste reduction and resource recycling to establish the concept of resource recycling and reuse, effectively eliminating waste and improving environmental sanitation to mitigate environmental loading. In order to address campus waste, we commission legal waste management and recycling companies to collect, load, transport, and dispose of waste on campus every year. Additionally, in response to the increasing cost of waste treatment year by year, resource recycling facilities are added on campus and relevant promotional activities are held, working together towards the goals of campus waste reduction and resource recycling.

General Waste

NKUST implements the 3R environmental protection measures of "Reduce", "Reuse" and "Recycle" to achieve environmental effectiveness through teaching activities and environmental actions. Regular announcements are made to promote waste reduction and resource recycling, and resource recycling bins are installed on campus at the same time. By providing recycling facilities for teachers and students, it promotes the sustainable use of resources. In 2022, NKUST integrated the document destruction operations of various units, and the original incineration destruction operation was replaced by dissolving the documents into pulp (i.e., dissolving into pulp by water) to achieve the goal of resource sharing and to develop the concept of sustainable development through resource recycling and reuse at the same time.

According to the statistics, the general waste generated by NKUST in 2022 was approximately 1,013.46 metric tons, of which the waste incineration and transportation amount was approximately 801.16 metric tons (excluding the Jiangong Campus), the general recycling amount was approximately 138.51 metric tons (excluding the Cijin Campus), the scrapped property recycling amount was approximately 68.95 metric tons (the whole school), and the recycling amount (dissolving into pulp by water, the whole school) was approximately 4.84 metric tons. We hope to gradually achieve sustainable development of a resource recycling green campus.



▲ The document destruction operations of various units of NKUST have been changed from incineration destruction to dissolving the documents into pulp (i.e., dissolving into pulp by water)



▲ Certificate of transportation and disposal issued by environmental protection companies

Construction Waste

General waste, general industrial waste, and hazardous industrial waste generated during the construction, demolition, decoration, and repair of buildings shall be legally disposed of by commission or reused in accordance with the provisions of the Waste Disposal Act. The surplus mud, soil, sand, stones, bricks, tiles, and concrete blocks generated from construction projects and public construction are considered valuable soil and stone resources if they can be temporarily stored and piled up for recycling, sorting, processing, transporting, treating, and reusing. Those soil and stone resources shall be managed in accordance with the Ministry of the Interior's construction spoil disposal treatment plan. NKUST's construction waste generation in 2022 was approximately 893 metric tons, all of which were recycled into soil and gravel resource site and stacking site.

Experimental Waste

The waste generated by NKUST's laboratories includes chemical waste liquids, waste lubricants, expired chemicals and biomedical waste (such as animal carcasses) for teaching or research purposes. All relevant laboratory wastes are commissioned to qualified disposal and treatment companies to assist in disposal, and relevant declarations and weight statistics are conducted in the Industrial Waste Declaration and Management Information System of the Environmental Protection Administration, Executive Yuan. In 2022, NKUST commissioned the resource recycling plant of the Environmental Resources Research and Management Center of National Cheng Kung University to oversee the waste liquid treatment of the First Campus, Jiangong Campus, and Yanchao Campus. According to statistics, the total amount of NKUST's experimental waste in 2022 was approximately 11.487 metric tons, with 2.86 metric tons by thermal treatment, 3.818 metric tons by chemical treatment, and 4.809 metric tons by incineration.

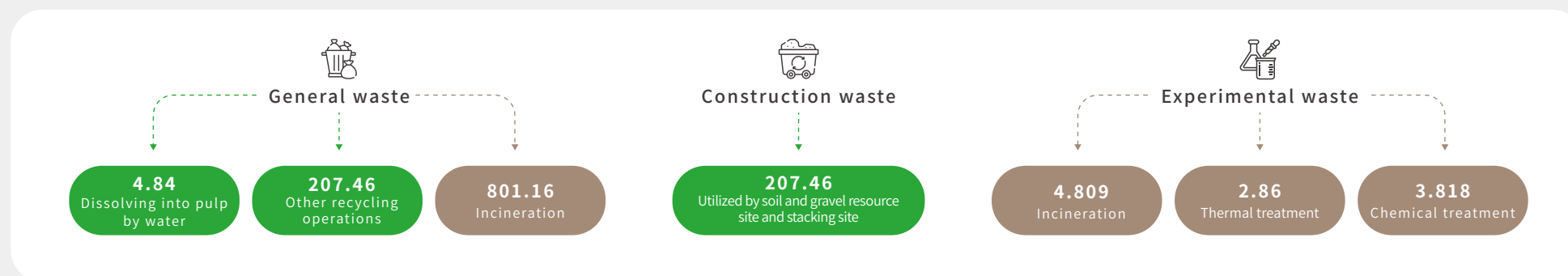


▲ NKUST commissioned disposal and treatment companies to dispose of waste liquid of the Nanzih Campus laboratories

Total waste generation and disposal methods

Unit: Metric tons

● Disposal and Transfer Method (Recycling) ● Direct Disposal Method



5.6 Green Energy Transportation

I. Taxi ride-sharing plan

NKUST cooperates with Transportation Bureau of Kaohsiung City Government to provide students with convenient, comfortable, and cost-effective transportation services. This plan aims to increase students' willingness to take public transportation, reduce student traffic accidents, improve campus safe transportation environment, and effectively utilize resources. The fixed-rate taxi ride-sharing plan is implemented in the First Campus and Yanchao Campus. The taxi stands (pick-up locations) are located in front of the Lequn Building and Jingye Building in NKUST's First Campus, and in front of Management Building 1, dormitories, the College of Humanities and Social Sciences, and the 7-11 convenience store in the Yanchao Campus. Students can take taxi within the campus. We aim to provide teachers and students with a safe, direct and convenient, and cost-effective taxi-sharing service with the hope that students will take taxis more and ride less, creating a safe campus environment with zero accidents and zero distance.



地點	高雄科技大學 (第一校區)			
	站牌 火車站	站牌 圖書館	站牌 聯合圖書館	站牌 體育場
1 元	200 元	350 元	210 元	190 元
2 元	120 元	210 元	125 元	110 元
3 元	85 元	150 元	90 元	80 元
4 元	70 元	120 元	70 元	65 元
5 元	60 元	105 元	60 元	55 元
7-11 店門口站牌	車資約減 15 元			

地點	高雄科技大學 (燕巢校區)					
	高科大 (站外校區)	站牌 圖書館	站牌 圖書館	站牌 圖書館	站牌 圖書館	高科大 (站外校區)
1 元	120 元	220 元	420 元	220 元	220 元	120 元
2 元	70 元	170 元	370 元	170 元	170 元	70 元
3 元	50 元	150 元	350 元	150 元	150 元	50 元
4 元	40 元	140 元	340 元	140 元	140 元	40 元
5 元	35 元	135 元	335 元	135 元	135 元	35 元
7-11 店門口站牌	車資約減 15 元					

◀ ▲ Route map and fare table of taxi ride-sharing plan



▲ The pick-up locations in front of the Lequn Building and Jingye Building in the First Campus

II. Campus shared bicycles

Yanchao Campus and First Campus are vast and shared bicycles are provided for the use by teachers and students with campus. There are resolute personnel responsible for maintenance.



▲ Campus shared bicycles

III. Public bike share - YouBike 2.0 rental

There are a total of five Public bike share - YouBike 2.0 rental stations located in NKUST's First Campus, enabling teachers and students to ride and commute and the public to ride for business. It is located at the main entrance of the East Campus, behind the library, across from the third parking lot and next to the swimming pool in the West Campus, as well as on the sidewalk of the female dormitories in NKUST's First Campus. Faculty members, staff, and students can use "iPass" electronic stored value card function of staff card or student card to rent, making rental more convenient.



▲ Public bike share - YouBike 2.0 rental



Statistics on NKUST green energy transportation

School
vehicles

14

Electric Vehicles 0

Cars

4,809

Electric Vehicles 13 (0.27%)

Motorcycles

17,550

Electric Vehicles 593 (3.38%)

Statistics on NKUST sustainable commuting



Public Transportation
Passengers*

100,135 people



Bicycle
Applications

419 people



Shared Bicycles
Within Campus

560 bicycles

* The statistics include the number of people entering the campus by taking school vehicles and the extended bus "7C Jiachang Station - National Kaohsiung University of Science and Technology (Yanchao Campus)".

5.7 Campus Ecology

Incorporating landscape and flood control functions, NKUST's First Campus constructed an ecological pool called Black-winged Stilt Pool, covering an area of approximately 14,000 square meters. Apart from effectively regulating the runoff during heavy rain in the west area of the First Campus, more importantly, it uses ecological engineering methods to create habitats, building a water area where organisms and people can interact closely.

The 6 key functional orientations of the campus ecological pool are as follows:

01

Drainage and flood storage

The ecological pool, with an area of approximately 14,000 square meters, can achieve a flood storage capacity of 10,000 m³. It controls floods spread and reduces damage to low-lying areas during heavy rains. Additionally, it serves as a water storage facility during dry seasons.

02

Water resource recycling

Water resource recycling: Recycling of domestic wastewater and sewage from the two student dormitories, Jingye Building and Lequn Building, has not only reduced the discharge of 90,000 m³ of domestic wastewater and sewage, but also reduced the overall water consumption in the environment, based on one year of observation.

03

Enhancement of landscape recreation function

Not only does it provide students with outdoor recreational space, but it also offers nearby residents a natural ecological park.

04

Ecological diversity of campus landscape

More than 60 kinds of birds, insects, aquatic plants and tree species are nurtured around the ecological pool.

05

Conservation of native aquatic flora and fauna

Pay attention to the ecological health of species and ensure ecological balance and biodiversity in waters.

06

Providing a high-quality ecological environment educational space

Achieving the concept of a sustainable campus.

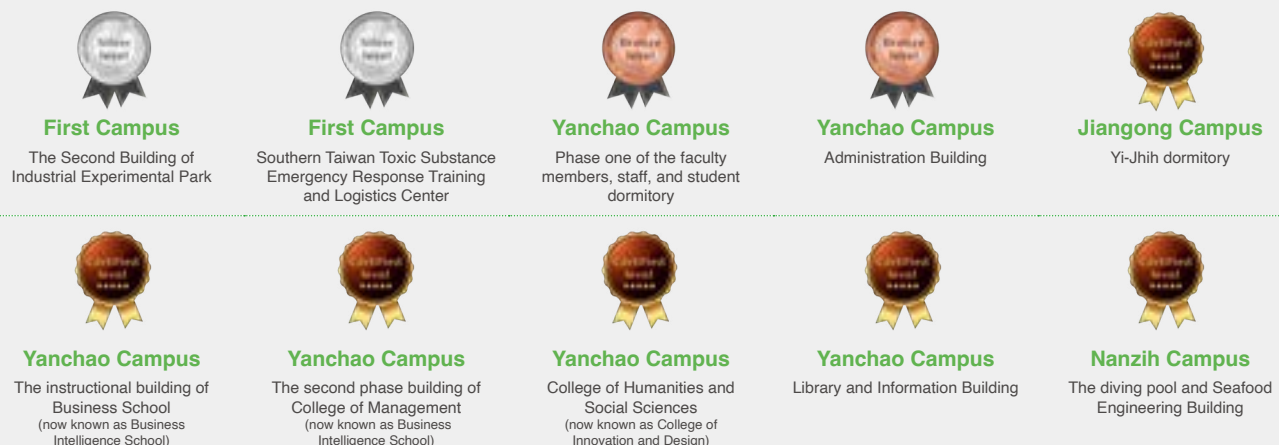
Yanchao Campus is located in Yanchao District, Kaohsiung City. A tributary of the Dianbao River flows through the campus, creating a serene environment. The entire area covers 109 hectares, of which only about 10 hectares are available for development. The rest consists of undeveloped slopes that have retained the original forest appearance, making it rich in ecological resources. Each of NKUST five campuses has its own unique ecological features. Please visit our official website to download a stroll map and experience the leisurely and relaxing natural ecological environment.



5.8 Green Building

NKUST adheres to the concept of sustainable campus development. In addition to considering coherence, educational value, practicality, safety and diversity in architectural planning, the concept of green buildings is also incorporated, aiming to provide high-quality teaching sites, promote environmental protection and energy saving, and advance environmental education through green building design. The goal is to construct a friendly campus that is sustainable, forward-looking, and environmentally friendly. NKUST has completed a total of 11 green buildings. Among them, the diving pool and Seafood Engineering Building of Nanzih Campus, the instructional building of Business School (now known as Business Intelligence School), the second phase building of College of Management (now known as Business Intelligence School), the College of Humanities and Social Sciences (now known as College of Innovation and Design), the Library and Information Building of Yanchao Campus, and the Yi-Jhih dormitory of Jiangong Campus have all obtained qualified green building classification. The phase one of faculty members, staff, and student dormitory of Yanchao Campus has passed five indicators, and the Administration Building of Yanchao Campus has passed seven indicators, both receiving bronze-level green building classification. The Second Building of Industrial Experimental Park in the First Campus and the Southern Taiwan Toxic Substance Emergency Response Training and Logistics Center in the First Campus have both passed eight indicators, receiving silver-level green building classification.

Green buildings are evaluated based on four major indicator groups of ecology, energy saving, waste reduction, and health, which can be divided into nine indicators, including biodiversity indicator, greening amount indicator, base water conservation indicator, daily energy saving indicator, carbon dioxide reduction indicator, waste reduction indicator, indoor environment indicator, water resources indicator, and sewage and waste improvement indicator. The recently completed Southern Taiwan Emergency Response Training and Logistics Center in NKUST First Campus has achieved eight indicators for greening amount, base water conservation, daily energy saving, carbon dioxide reduction, waste reduction, indoor environment, water resources, and sewage and waste improvement.



▲ Southern Taiwan Toxic Substance Emergency Response Training and Logistics Center at the First Campus - Silver level



▲ Administration Building at the Yanchao Campus - Bronze level

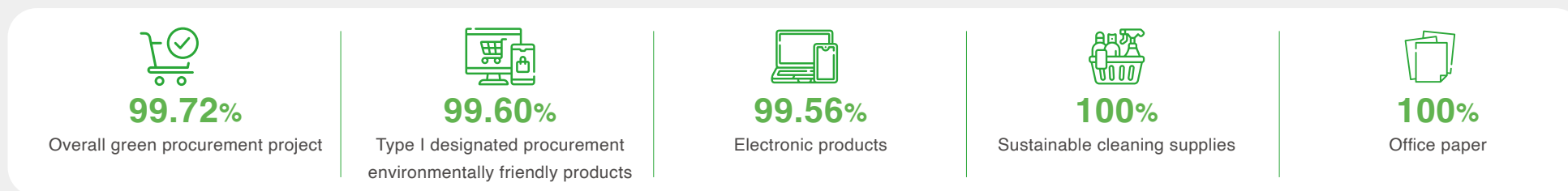


▲ Library and Information Building at the Yanchao Campus - Certified level

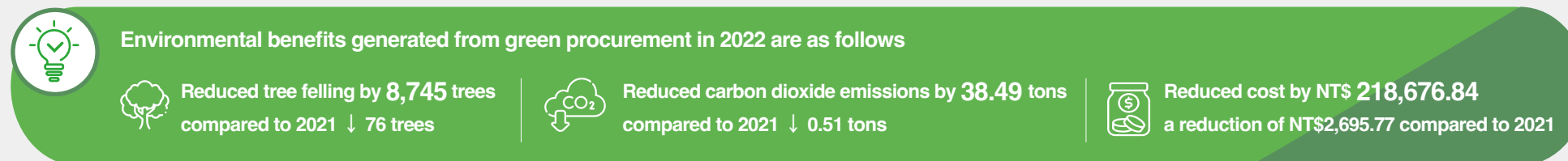
5.9 Green Procurement

Green procurement aims to reduce environmental impact by purchasing green products that are recyclable, low-pollution, and energy-saving. It encourages the production and use of green products to promote a culture of green consumption. In response to the Executive Yuan's "Regulations for Priority Procurement of Green Products" and the related procurement performance evaluation and scoring methods, NKUST prioritizes the use of the green-label and environmentally friendly products listed on the Green Living Information Platform of Environment Protection Administration (which upgraded to Ministry of Environment in 2023) and actively promotes green procurement practices within campus. In 2022, the overall proportion of green procurement projects reached 99.72%, with the Type I designated procurement environmentally friendly products reached 99.60%, electronic products (including host computers, monitors, printers, laptops, desktop computers, scanners, portable projectors, image output devices, etc.) reached 99.56%, and items such as sustainable cleaning supplies and office paper all reached 100%.

Green procurement rate for 2022



Total environmental benefits generated from green procurement



* No water-saving products were purchased in 2022.



Appdndix

Sustainability Performance Summary Table

Sustainable courses	Item	Unit	2020	2021	2022	Corresponding Chapter
	Sustainable courses	Course	357	1,077	1,199	3.1 Sustainable Courses
	Departments offering at least one sustainable course	Department	39	58	70	3.1 Sustainable Courses
	Ratio of departments offering at least one sustainable course to all departments*	Percentage	78%	90.6%	97.2%	3.1 Sustainable Courses
	Departments that list sustainable courses as required credits	Department	21	34	38	3.1 Sustainable Courses
	Ratio of departments that list sustainable courses as required credits to all departments	Percentage	42%	53.1%	52.8%	3.1 Sustainable Courses
Sustainable research	Item	Unit	2020	2021	2022	Corresponding Chapter
	Journal articles on sustainable research	Article	72	162	283	3.5.1 Research Projects and Papers on Sustainability
	Research projects on sustainability	Project	96	194	141	3.5.1 Research Projects and Papers on Sustainability
	Research fellow engaged in sustainability-related research projects/journal articles	People	91	222	133	3.5.1 Research Projects and Papers on Sustainability
	Open Access Journal Article	Article	286	429	525	3.5.1 Research Projects and Papers on Sustainability
	Ratio of Open Access Journal Article to all journal articles	Percentage	42%	50.8%	54.8%	3.5.1 Research Projects and Papers on Sustainability
Smart green campus	Item	Unit	2020	2021	2022	Corresponding Chapter
	Electricity consumption	kWh	41,855,246	39,537,328	40,675,876	5.2.1 Energy Saving Policy
	Energy Unit Index (EUI)	kWh/square meter	69.82	67.4	69.1	5.2.1 Energy Saving Policy
	Greenhouse gas emissions (Scope 1)	MTCO ₂ e	105	100	1,645	5.2.1 Energy Saving Policy
	Greenhouse gas emissions (Scope 2)	MTCO ₂ e	20,710	20,125	20,135	5.2.1 Energy Saving Policy
	Renewable energy generation (Including feed-In tariff and green energy certificates)	kWh	722,544	1,259,287	1,978,009	5.2.2 Solar Power Generation
	Statistics on waste (including general waste, resource recycling, experimental waste, and construction waste)	Metric ton	3,965	1,139	1025	5.5 Waste Management
	Water consumption	m ³	650,174	585,838	595,549	5.4 Water Management
	Water consumption per capita	m ³ /person	22.45	18.92	19.31	5.4 Water Management
	Ratio of type I designated procurement environmentally friendly products	Percentage	99.59%	99.60%	99.60%	5.9 Green Procurement
	Valid Green Building Label Certificate (including Green Building Candidate Certificate)	Certificate	3	3	4	5.8 Green Building
	Number of passengers taking school vehicles	People	163,555	113,970	100,135	5.6 Green Energy Transportation
	Number of bicycle applications	Application	495	478	419	5.6 Green Energy Transportation

* All departments include independent institutes, doctoral programs, part-time students, and degree programs, totaling 72 departments.



Diversification and well-being	Item	Unit	2020	2021	2022	Corresponding Chapter
	Proportion of participants in University Council					
	Number of academic-related representatives	Percentage	83%	82%	82%	2.1.1 Decision-making Meetings and Organizations
	Number of non-academic-related representatives	Percentage	7%	7%	7%	2.1.1 Decision-making Meetings and Organizations
	Number of student representatives	Percentage	11%	11%	11%	2.1.1 Decision-making Meetings and Organizations
	Gender ratio of participants in University Council (male:female)	Proportion	4.31	4.23	4.26	2.1.1 Decision-making Meetings and Organizations
	Economically disadvantaged students					
	Number of incentives distributed	NTD	14,386,887	20,448,545	20,748,615	3.8.1 Admissions and Financial Aid
	Number of people incentives distributed to	People	2,133	2,303	4,384	3.8.1 Admissions and Financial Aid
	Tuition and miscellaneous fees exemption					
	Requested amount	NTD	82,232,884	81,906,048	84,624,460	3.8.1 Admissions and Financial Aid
	Number of applicants	Applicant	4,833	4,824	4,961	3.8.1 Admissions and Financial Aid
	Student loans					
	Requested amount	NTD	267,478,137	271,298,777	260,697,836	3.8.1 Admissions and Financial Aid
	Number of applicants	Applicant	9,095	9,163	8,809	3.8.1 Admissions and Financial Aid
	Scholarships and bursaries					
	Requested amount	NTD	41,457,563	41,502,886	43,177,363	3.8.1 Admissions and Financial Aid
	Number of applicants	Applicant	2,879	3,200	3,375	3.8.1 Admissions and Financial Aid
	Disabling injury and occupational disease					
	Recordable incidents of disabling injuries and occupational diseases among faculty members and staff	Incident	4	2	0	2.7 Occupational Safety and Health
Campus sustainability and social engagement	Item	Unit	2020	2021	2022	Corresponding Chapter
	Number of University Social Responsibility Program	Program	5	5	5	4.1 University Social Responsibility
	Number of government sustainability-related projects undertaken by faculty members and staff	Project	11	71	25	3.5.2 Sustainable Government Collaboration Projects
	Number of sustainable clubs	Club	19	13	9	3.3.1 Sustainable Clubs
	Number of people served by student service learning and rural service teams	People	93	569	2,845	3.3.2 Sustainable-related Activities
	Number of sustainability-related continuing education courses	Course	43	59	95	3.2.1 Continuing Education



SASB: Education Index

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	SV-ED-230a.2	Description of policies and practices relating to collection, usage, and retention of student information	2.9 Information Security	P.46-47
	SV-ED-230a.3	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of students affected	2.9 Information Security	P.46-47
Quality of Education & Gainful Employment	SV-ED-260a.1	Graduation rate	3.8.2 Career Counseling and Employment Performance of Graduates	P.95
	SV-ED-260a.2	On-time completion rate	3.8.2 Career Counseling and Employment Performance of Graduates	P.95
	SV-ED-260a.3	Job placement rate	3.8.2 Career Counseling and Employment Performance of Graduates	P.95
	SV-ED-260a.4	(1) Debt-to-annual earnings rate and (2) debt-to-discretionary income rate	No information available	-
	SV-ED-260a.5	Program cohort default rate	No information available	-
Marketing & Recruiting Practices	SV-ED-270a.1	Description of policies to assure disclosure of key performance statistics to prospective students in advance of collecting any fees and discussion of outcomes	2.1.3 Financial Information	P.17-18
	SV-ED-270a.2	Total amount of monetary losses as a result of legal proceedings associated with advertising, marketing, and mandatory disclosures	N/A (no property damage incurred)	-
	SV-ED-270a.3	(1) Instruction and student services expenses and (2) marketing and recruiting expenses	2.1.3 Financial Information	P.17-18
	SV-ED-270a.4	Revenue from: (1) Title IV funding, (2) GI Bill funding, and (3) private student loans	2.1.3 Financial Information * (2)(3) No information available	P.17-18
Activity Metrics	SV-ED-000.A	Number of students enrolled	1.2 School Data 2.3.3 Diverse Students	P.8 P.33-34
	SV-ED-000.B	Number of applications received for enrollment	2.3.3 Diverse Students	P.33-34
	SV-ED-000.C	Average registered credits per student, percentage on-line	2.3.3 Diverse Students 3.2.3 Digital Courses	P.33-34 P.67
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	2-3	Reporting period, frequency and contact point	About This Report	P.1
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	201-3	Defined benefit plan obligations and other retirement plans	2.3.1 Talent Acquisition and Retention	P.26-28
		Financial assistance received from government	2.1.3 Financial Information	P.18
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	N/A (the geographical location of NKUST is not within protected areas)	-
	304-2	Significant impacts of activities, products, and services on biodiversity	5.7 Campus Ecology	P.128
	304-3	Habitats protected or restored	3.5.4 Marine Characteristic Research and Collaboration Plan 5.7 Campus Ecology	P.84 P.128
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	N/A (the geographical location of NKUST is not within habitats in areas affected by operations)	-
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	2.10 Material Topics and Stakeholders 4.1 University Social Responsibility 4.2 Focus Special Issue	P.48-60 P.97-98 P.99-104
	413-2	Operations with significant actual and potential negative impacts on local communities	N/A (there are no such incidents)	-
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	2.9 Information Security	P.46-47
NKUST Customized Material Topics	NKUST 1	Academic research quality	3.5 Academic Performance	P.71-84
	NKUST 2	Teaching Quality and Effectiveness	3.6 Teaching Quality Assurance	P.85-87
	NKUST 3	Academic and Ethical Integrity	3.7 Academic and Ethical Integrity	P.88
	NKUST 4	Student Academic Support and Counseling	3.8.1 Admissions and Financial Aid	P.88-91
	NKUST 5	International Linkages	4.6 International Exchange	P.110-115

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