

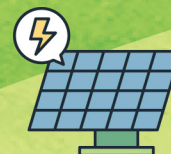
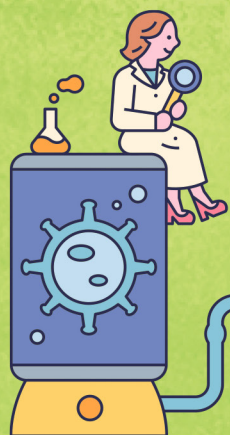


國立高雄大學

National University of Kaohsiung

# 2021 Sustainability Report

# SDGs





About the Report	2
The President's Statement	3

## 1 Overview 4

1-1 History	4
1-2 Organization and Overview	7
1-2.1 University Organization	7
1-2.2 Operations of Committees	8
1-2.3 Management of Human Resource	9
1-3 Financial Overview	12
1-3.1 Financial Management	12
1-3.2 Financial Risk Assessment	14



The Best Millennial University Ranked 56th in the world.  
The only National University in Taiwan

## 2 Operations of University Affairs 18

2-1 Special Features, Development Vision and Principles	18
2-1.1 The Concept of University Affairs Development	18
2-1.2 Founding Philosophy and Special Features	18
2-1.3 NUK's Vision	19
2-2 Risk Analysis	19
2-3 Vendor management operations	20
2-4 Stakeholder engagement & Identifying Major Topics and Boundaries	21
2-4.1 Stakeholder Engagement	21
2-4.2 Identifying Major Topics	24
2-4.3 Major topics Ranking and Boundary Analysis	25
2-4.4 Development Strategy and Management Approach	26

## 3 School Achievements 28

3-1 Teaching Quality	28
3-1.1 Enhance Faculty's Competency and Provide Full Administrative Support	28
3-1.2 Encourage Faculty to Integrate Innovative Teaching with Research	29
3-2 Teaching Software Facilities	32
3-3 Mechanism and Practice of Management and Review of the Faculty and Students	33
3-4 Quality and Quantity of Academic Research	33
3-5 Academic Ethics	34
3-6 Student Learning Achievement	34
3-6.1 The establishment of big data-oriented approach in feedback and learning structure	34
3-6.2 Strengthen Basic Core and General Competency	35
3-6.3 Establish IF School	36
3-6.4 Establish AI Center to Cultivate AI Talents	38
3-6.5 Establish the Only AVR+ School in Taiwan	38
3-6.6 Cultivate Highly Professional Talents in Legal Japanese	38
3-7 International Exchange and International Partnership	39
3-8 Operations of continuing and extension education	41

## 4 National University of Kaohsiung SDGs 43

4-1 SDGs Curriculum and Research	44
4-1.1 Use Sustainable Topics as Media to Connect Faculty as Community and Offer Interdisciplinary Classes	44
4-1.2 University SDGs Impact Evaluation and Value-added Features of NUK as Green University	44
4-1.3 Strengthen the Special Enrollment of International College, and Inter-office Cooperation for Overseas Students' Study and Counseling	45
4-1.4 Develop International Cooperative Network through SDGs-Inside	46
4-1.5 Promote the SDG Literacy Test	46
4-2 Organizations and Regulations Related to Campus Environment	46
4-2.1 Organizations Related to Campus Environment	46
4-2.2 University Self-defined Regulations	47
4-3 Environmental Status and Management	47
4-3.1 Air Quality Status and Management	47
4-3.2 Water Resource Management	47
4-3.3 Waste Management	50
4-3.4 Occupational Safety and Health Management	50
4-4 Energy saving strategy	55
4-4.1 Energy Saving Measures	55
4-4.2 Gasoline Saving Measures	56
4-4.3 Carbon Emissions	56
4-5 Sustainable Campus Management	57
4-5.1 Green Buildings on Campus	57
4-5.2 Green Procurement	57
4-5.3 Campus Vehicle Management and Installment of Youbike	57
4-5.4 Create Biodiverse Habitats	58
4-5.5 Manage Stray Dogs on Campus	58
4-6 Campus Safety	58
4-7 Environmental Education	59
4-7.1 Teaching Sustainable Development Course	59
4-7.2 Important Activities on Sustainable Development Topics	59

## 5 Social Inclusion 61

5-1 Fulfil Social Responsibility: Design for Community	61
5-1.1 Compulsory Service Learning and the Spirit of Social Responsibility	61
5-1.2 Construct a Care System by Service Learning in General Education Curriculum	62
5-1.3 Volunteer Services: Establish Healthy Partnership with Communities	62
5-1.4 Launch Community Design Module and Practicum	63
5-1.5 A New Model of Cooperation among University, National Education and Local Industry	65
5-2 Improve the Publicness of Higher Education: Design for Educational Equality	67
5-2.1 Expand the Recruitment Channels for Underprivileged Students and Optimize Learning Guidance	67
5-2.2 Expand Exchange Among the Students of New Residents	69
5-2.3 Links with University Social Responsibility and NUK Entrepreneurial Alumni	70
5-2.4 Implement Self-Accountability of Higher Education	70

GRI Check Statement	74
GRI Standard 2016 Comparison Table	75

### About the Report

This sustainability report is first published by National University of Kaohsiung (hereafter NUK) for the stakeholders to understand its performance in the four aspects of operations: institutional management, teaching and learning, campus environment and social inclusion. It presents the topics of the University sustainability and its social responsibility, and how the University responds and acts while identifying, analyzing and disclosing significant topics.

### The Basis of the Report

The structure of this report mainly follows the compilation of the GRI Standards guidelines published by the Global Reporting Initiative (GRI) in 2016. It follows the disclosure of the core option and the three principles of inclusivity, materiality, and responsiveness to collect and disclose data of the report.

### The Boundary for Data Collecting

The boundaries for data collecting are limited to the university campus, comprising governance, faculty and staff, students, environment and society.

### Time Span of the Report

The content of this report spans from January 1, 2021 to December 31, 2021 according to the type of data acquired: the information of faculty and students spanning from the academic year of 2020 and the first semester of 2021; the information of operational activities from August 1, 2020 to February 29, 2022, some dated from recent one to three academic years or from one to three years. When the mentioned qualitative or quantitative data is not available or with certain significance, footnotes are added.

### Review of the Report

This report was reviewed by the independent third party, British Standards Institution (BSI) in June 2022 in compliance with the core options and review standards of GRI Standards 2016. The BSI certificate is enclosed in the appendix.

### Report Cycle

This annual report of sustainability was first published in July 2019. The next Chinese version will be published in July 2023.

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## The President's Statement

National University of Kaohsiung, founded in 2000, is the only newly set-up national comprehensive university in Taiwan at the very beginning of the twenty-first century. The University consists of five colleges, twenty-one departments, twenty-two master's programs and three doctoral programs. Our mission is to balance the development of higher education in southern and northern Taiwan, and to launch Kaohsiung on to the world stage and pursue excellence. It complies with the government's industrial policies: to launch a hi-tech corridor in southern Taiwan; to meet the demands of emerging industries; to assist upgrading and transforming local traditional industries in Kaohsiung area; to supply technical and managerial personnel for the global deployment and operations of Taiwanese enterprises.

The University recognizes, as an innovative university of the twenty-first century, the importance of our social obligations. In addition to our focus on the integration of teaching and research, humanities and science, and cooperation with industry, government, and other universities, it aims at building a university community in the surrounding area, constructing green space, empowering civic development, enhancing community quality, and promoting humanistic culture in Kaohsiung. After consistent efforts, the University was the first to sign the Talloires Declaration on June 5, 2004, and designated as the first Green University in Taiwan. In 2009, the University was awarded the title "Model Green University" by the Ministry of Education; in 2010, it was awarded the first place in the university category for Promoting Environmental Protection; in 2011, it was awarded the second place in the university category for "Water Conservation Contest 2011"; in 2014, it was awarded for excellence in the university category by the Water Resources Agency, Ministry of Economic Affairs for "Water Conservation Contest 2014"; in 2017, it was given the rank of Excellence by the Ministry of Education for "University and Colleges Health Promotion Projects 2016"; in 2019, it won the Gold Award of 2019TCSA Corporate Sustainability Reports in sustainability report category, and Judge's Award in National Sustainability Development Award of the Executive Yuan in the education category; in 2020 and 2021, it won Gold Award of TCSA Corporate Sustainability Reports in university category.

This University envisions itself to be an institution of special features with international prestige, to integrate teaching and research with industrial development, to emphasize humanistic culture and technological innovation and to cultivate talents. It hopes to transform the traditional style of education in order to provide faculty-staff and students with a free and creative climate, well-equipped teaching and research facilities, and high-

quality learning environment. Along these lines, students will enhance learning capacity and faculty-staff will boost productivity. In order to achieve these goals, the University is pledged to its core idea to pursue change and transformation as strengthening services to the local community and public in higher education. To promote its international prestige, the University embraces Sustainable Development Goals (SDGs), adopting Glocalization as its core DNA. At the same time, it seeks international partners for cooperation and interpretation of SDGs strategy.

Thus, in its mid- and long-term plans, the University announces adopting SDGs-Inside as core guiding principle for actions. Based on Green University of the Talloires Declaration, this University cooperates internationally with those participating in SDGs sustainability programs. This is the bridge that connects the University with international society and develops its special features. It will become a role model for the Southeast Asian universities to interface with Euro-American universities.

Through these endeavors, the University is recognized in the University Impact Rankings by Times Higher Education (THE), UK in 2019. This is the first of its kind to assess universities on the basis of the United Nations' 17 Sustainable Development Goals. The University participated in the assessment of 551 universities from 80 countries around the world, and was ranked 201-300, matching SDG 8 "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all", it is ranked 72; for SDG 11 "Make cities and human settlements inclusive, safe, resilient and sustainable", 94. THE's University Impact Rankings reveals that the global assessment of university impact is no longer restricted to academic performance. The greater trend is to consider the broader impact that universities create. SDGs are becoming the common measure to evaluate the impact universities have on society, environment, and their partnerships.

National University of Kaohsiung, the youngest national university in Taiwan, is determined to pursue excellence, while daring to innovate and change, and implement Sustainable Development Goals. This University believes the spirit of substantiality is to act and not to copy. We believe each and every university has its own unique features. Whatever the features or styles are, action is the key to success for a sustainable campus. Our endeavors are a continual test for the future of sustainability in Taiwan.

President

*Yueh-Juan Chen*



## 1

About the Report

The President's Statement

1-1 History

1-2 Organization and Overview

1-2.1 University Organization

1-2.2 Operations of Committees

1-2.3 Management of Human Resource

1-3 Financial Overview

1-3.1 Financial Management

1-3.2 Financial Risk Assessment

## Chapter 1

## Overview

## 1-1 History

National University of Kaohsiung (hereafter NUK) was established, in compliance with government industrial development policy, to launch Asia-Pacific Regional Operations Center including the Southern Taiwan Science Park, Kaohsiung Multifunctional Commerce and Trade Park and International Logistics Center, and to assist industry upgrading and cultivating technology and management talents. NUK was approved by the Executive Yuan to establish a Preparatory Office in May 1997, officially founded at 700 Kaohsiung University Road, Nan-zi District, Kaohsiung on February 1, 2000, and began recruiting the first class of students in August, 2000.

① Vision: a university of special features with international prestige

② Positioning:

Combine teaching and research with industrial development

Emphasize on humanistic culture and sci-tech innovations

An excellent university that cultivates elite and talents



國立高雄大學



## Chronology

## CHRONOLOGY

## 1997

- The Executive Yuan approved the founding a Preparatory Office of NUK.
- Director of the Preparatory Office Ren-hong Wang began his directorship on June 11.
- A conference room of Kaohsiung Municipal Chuang-Shan Senior High School on loan to the Preparatory Office began operations on June 13.
- Vice President, also Premier of the Executive Yuan, Mr. Chan Lian presided at the opening ceremony of the Preparatory Office on July 22.
- The Preparatory Office, Taipei Branch began to operate at the rented site, 3F-6, 189 Keelung Road, Hsin-yi District, Taipei on October 1.

## 1998

- The construction of the First General Building was completed.

1999

- The Ministry of Education (hereafter MOE) approved the establishment of the Depts of Western Languages and Literature, Law, Applied Economics, Applied Mathematics and Electrical Engineering on September 29.
- MOE approved the establishment of the Dept of Government and Law on October 2.

2000

- Vice President, Mr. Chan Lian attended NUK's founding ceremony on February 1. Prof. Ren-hong Wang served as the first NUK president.
- The construction of the First Student Dormitory was completed.

2001

- The construction of the First Science and Engineering Experiment Building presently the College of Engineering Building was completed and began operating.
- MOE approved the establishment of the Depts of Kinesiology, Health and Leisure Studies, Economic and Financial Law, Asia-Pacific Industrial and Business Management, Life Science, Applied Chemistry, and Civil and Environmental Engineering.

2002

- The address of NUK was changed to 700 Kaohsiung University Road, Nan-zi District, Kaohsiung on March 20.
- The construction of the Second Science and Engineering Experiment Building (presently the College of Science) was completed and began operating.
- MOE approved the establishment of the Depts of Finance, Information Management and Applied Physics.
- MOE approved the establishment of the Dept of Indigenous Art.

2003

- MOE approved the establishment of the Depts of Statistics, and Chemical and Materials Engineering.

2004

- The construction of the Kinesiology, Health and Leisure Building was completed and began operating.
- NUK signed the Talloires Declaration on June 5.
- The construction of the College of Law Building was completed and began operating.
- MOE approved the establishment of the Dept of Computer Science and Information Engineering.

2006

- The construction of Central Square was completed and began operating.
- The construction of the College of Management Building was completed and began operating.
- The Dept of Indigenous Art changed to the Dept of Traditional Craft and Creative Design.

2007

- NUK adopted wind power to improve water quality and ecology on campus.

2008

- Prof. Ying-Chung Huang continued his service as the third NUK president.
- MOE approved the establishment of the Dept of East Asian Languages and Literature.

2009

- NUK was awarded as Model Green University.





2010

- NUK was awarded the first prize for promoting environmental protection in the university and college category.

2011

- The Ecological Pond on campus was declared as “Wetlands of National Importance” by the Ministry of Internal Affairs.
- Awarded by the Ministry of Economic Affairs for Excellence Prize at Water Conservation Contest.
- The construction of Hong Sze-Chuen Sports Dome (covered sports field) was completed and began operating

2012

- Prof. Zhao-rui Huang served as the fourth NUK president.
- The College of Law Building was issued a Bronze Label of Photoelectric Intelligence Building by Kaohsiung City.
- NUK was awarded the Excellence Prize for the result presentation sponsored by the Environmental Protection Fund, Environmental Protection Administration.
- The construction of the College of Humanities and Social Sciences Building was completed and began operating.
- NUK was awarded with an Excellence Prize for promoting and implementing institutional recycling.
- MOE approved the establishment of the Dept of Athletic Performance.
- The Dept of Traditional Craft and Creative Design, the College of Humanities and Social Sciences and Graduate Program of Urban Development and Architecture, the College of Engineering were merged into the Dept of Creative Design and Architecture.

2013

- The College of Humanities and Social Sciences Building passed 9 green building indicators and was issued a Gold Label Green Building Certificate.

2014

- NUK was awarded by the Ministry of Economic Affairs with an Excellence Prize at the Water Conservation Contest.
- The construction of Administration Building was completed and began operating

2015

- The construction of a Large Wooden Building funded by MOE for Model House, the Center of Sustainable Environmental Technology, was completed and began operating.
- The construction of the Second Student Dormitory was completed.
- NUK was awarded the Teaching Excellence Project by MOE.

2016

- NUK was awarded for excellent performance in university and college sanitation coaching of 2015.

2017

- The Indigenous Student Resource Center was founded.
- The Center for Southeast Asian Development and Research was founded.

2018

- NUK attended the result ceremony for “U-Start Plan for Innovation and Entrepreneurship, 2017” and was awarded with \$1,450,000 of the first prize.
- The NUK Office in Medan, Indonesia was founded.

2019

- NUK was ranked 201-300 in University Impact Ranking, Times Higher Education, UK.
- NUK was ranked 56 in “The Best Millennial Universities 2019”, Times Higher Education, UK. The first national university in Taiwan to be listed.
- The Executive Office of “50th National Intercollegiate Athletic Games” was founded.
- NUK was awarded the Judges’ Award for “National Sustainable Development Award” in the Education Category.

2020

- Ranked 301-350 in Asia in “QS World University Rankings”.
- Awarded for the Center Gold Prize in Book Category by Taiwan Institute for Sustainable Energy.
- The solar power system of the Law College won the first certificate by National Renewable Energy Certification (T-REC) on campus.
- Ms. Xiao-wen Tian, Athletic Performance Dept, won third place in Individual Competition, Para Table Tennis, Spain.
- Prof. Bao-diao Zhuang acted as Deputy President
- The 50th National Intercollegiate Athletic Games was held in NUK. Vice President Dr. Ching-te Lai, Minister of MOE, Mr. Wen-zhong Pan, Director of Sports Administration Bureau, MOE, Mr. Shao-xi Zhang attended the event.

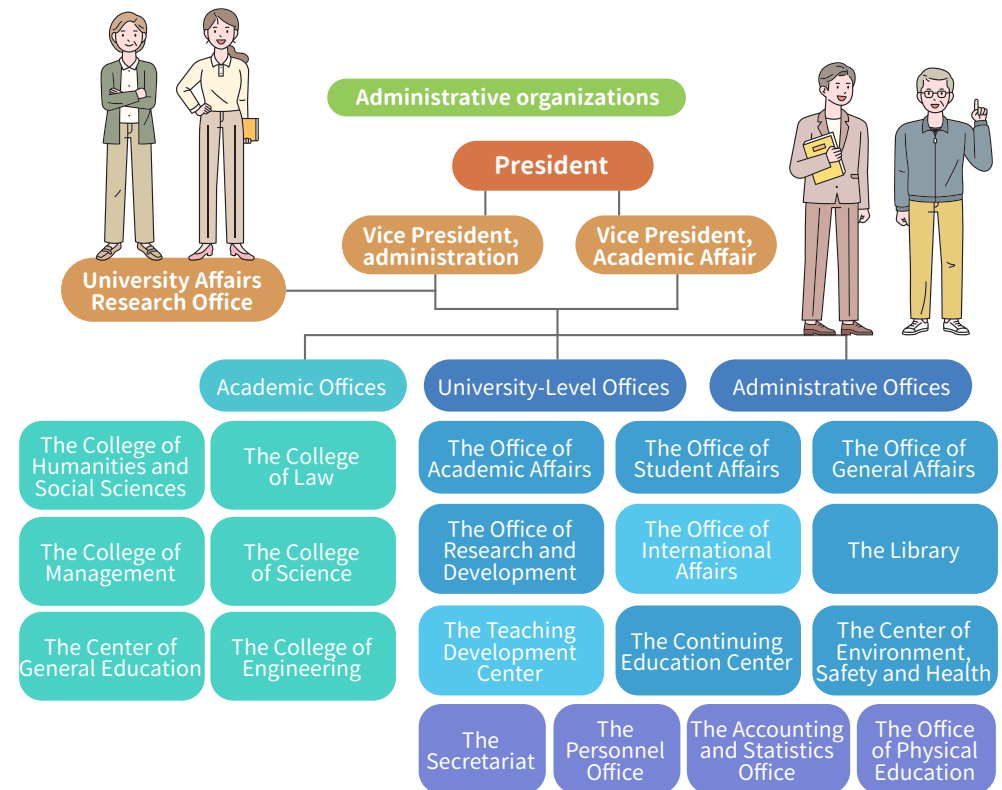
2021

- Prof. Yue-duan Chen began serving as the sixth NUK president.
- Architecture students attended the 10th Virtual Design World Cup, and won a Second Place and 2 Special Judge's Awards.
- Signed a memorandum of cooperation with the Kaohsiung Management Office of the Farmland and Water Resources Department of the Agriculture Committee of the Executive Yuan, and inaugurated the Mingcheng Branch of "Continuing Education Center" to jointly promote continuing education
- Co-held the inauguration of 1000th UBIKE Stand (Administration Building Stop) with Transportation Bureau, Kaohsiung City.
- Tian Xiao-wen, Athletic Performance Dept, won Bronze Medal in Individual Competition (TT10), Para Table Tennis, Tokyo, 2020.
- Architecture students led by Prof. Chen Yi-zhao to join The 11th Virtual Design World Cup, and won Championship, Second Place, Special Judge's and ¥450,000 awards.
- The construction of Students Activity Center won Urban Engineering Quality Gold Award 2021.

## 1-2 Organization and Overview

### 1-2.1 University Organization

The University administration is organized in accordance with the University Organizational Charter. The selection and appointment of administrators are in accordance with the charter. The President is the highest administrator and the University Council is the highest policy making body. In response to environmental, social and governance topics, NUK has established the Committee of Environmental Protection and Safety and Health, the Management Committee of University Fund, and the Committee of University Development as the decision-making committees.





## Academic Organizations

The College of Humanities and Social Sciences	The College of Law	The College of Management	The College of Science	The College of Engineering	The Executive Management Training Center	The General Education Center
The Dept. of Western Languages and Literature ●○ The Dept. of Kinesiology, Health, and Leisure Studies ●○○ The Dept. of East Asian Languages and Literature ●○○ The Dept. of Athletic Performance ●○ The Dept. of Architecture ●○ The Dept. of Crafts and Creative Design	The Dept. of Law ●○○○ The Dept. of Government and Law ●○○○ The Dept. of Financial and Economic Law ●○○○ Doctoral Program founded in 2017 ●	The Dept. of Applied Economics ●○ The Dept. of Asia Pacific Industrial and Business Management ●○ The Dept. of Finance ●○ The Dept. of Information Management ●○○○ International Master of Business Administration ●○○○ Institute of Business and Management ●○	The Dept. of Applied Mathematics ●○ The Dept. of Life Sciences ●○ The Dept. of Applied Chemistry ●○ The Dept. of Applied Physics ●○○○ Institute of Statistics ○ Applied Science Master Program for International Graduate ●○○○	The Dept. of Electrical Engineering ●○ The Dept. of Civil and Environmental Engineering ●○ The Dept. of Chemical and Materials Engineering ●○ The Dept. of Computer Science and Information Engineering ●○	Executive Master of Business Administration (EMBA) Program ●○○○ International Executive Master of Business Administration (IEMBA) Program - Vietnam, Xiamen, Shanghai, Thailand ●○○○ Executive Master of Law and Business Administration (EMLBA) ●○○○	The Teaching Development Section The General Education Section The Common Curriculum Section

5 colleges

20 departments

21 master programs

3 PhD programs

2 2-year in-service undergraduate programs

13 in-service master programs

● undergraduate program

○ master program

⊙ PhD program

■ 2-year in-service undergraduate program

□ University-Industry master program

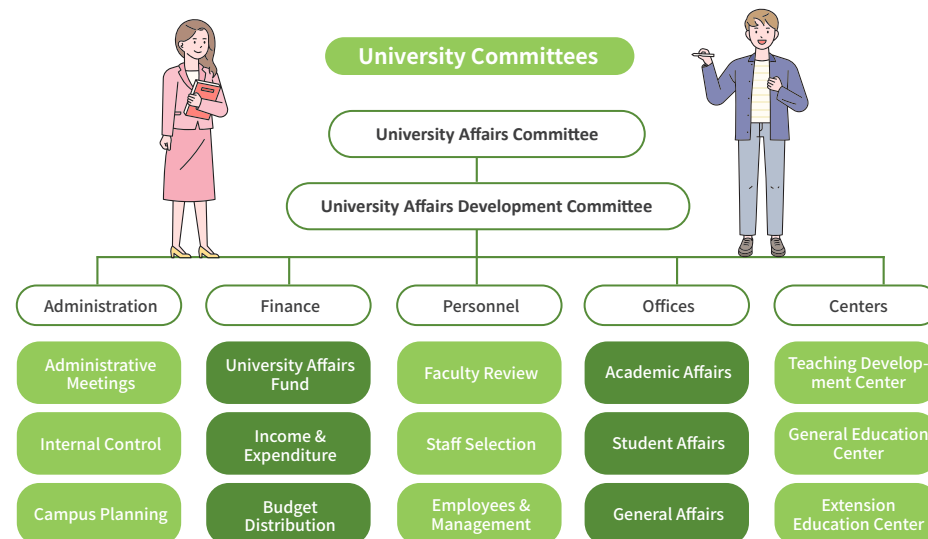
⊖ in-service master program

## Composition of NUK University Affairs Committee

Member	Gender	Age				Gender	
		20-30	30-40	40-50	50-60	Total	Ratio
University Affairs Committee	Male	0	0	24	43	67	73.63%
	Female	0	3	8	13	24	26.37%
	Total	0	3	32	56	91	100.00%
Age	Ratio	0.00%	3.30%	35.16%	61.54%		

## 1-2.2 The University Affairs Committee

The University has various committees as the following charts shows:



The school's resource input for the development of school affairs includes: manpower, funds, space, map equipment, etc., all of which are planned and configured with complete administrative support and relevant regulations, and are supervised, checked and reviewed by various types of selection committees. Details are as follows:

## Committee functions

Level	Personnel	Expenditure	Space	Library & Equipment
University Level	<ul style="list-style-type: none"> <li>The University-level Faculty Evaluation Committee</li> <li>The Staff Selection &amp; Performance Evaluation Committee</li> <li>The Manpower Evaluation Committee</li> </ul>	<ul style="list-style-type: none"> <li>The University Affairs Fund Management Committee</li> <li>The Budget Distribution Committee</li> </ul>	<ul style="list-style-type: none"> <li>The Space Distribution &amp; Management Committee</li> <li>The Campus Substantively and Planning Committee</li> </ul>	<ul style="list-style-type: none"> <li>The Library Committee</li> <li>The Precision Instrument Committee</li> </ul>
College Level	The College Faculty Evaluation Committee	The College Affairs Committee	The College Affairs Committee	The College Library Committee
Department	The Department Faculty Evaluation Committee	The Department Affairs Committee	The Department Affairs Committee	The Department Library Committee
Center	The Center Committee	The Center Committee	The Center Committee	The Center Committee

## 1-2.3 Management of Human Resource

## 1. Human Resource Allocation and Analysis

The University's hiring system adheres to the principles of impartiality, transparency, and fairness. It adopts a "dual-track hiring system" that separates faculty and staff. Faculty appointments are reviewed by three levels of faculty affairs councils; staff is hired in accordance with the law.

The University permanent employees are divided into two tracks: the ones covered by public insurance (including retirement savings) and the others, by labor insurance (including labor retirement and severance savings). They are subject to the protection of the Labor Standards Law (school-employed personnel) and civil servants insurance law (civil servants and teachers). In 2021, most of the reasons for leaving the jobs were retirement, other employment, family factors, career planning, and contract expiration. In terms of job title category, the university hired accounted for the majority, and most of them resigned due to career planning.

## Newly recruited full-time employees 2021

Year	Gender	Age				Total	Ratio
		20-30	30-40	40-50	50-60		
Full-time Faculty	Male	0	0	2	0	2	10%
	Female	0	0	0	0	0	0%
Civil servants	Male	0	0	0	0	0	0%
	Female	1	1	0	0	2	10%
Contract Faculty	Male	0	1	0	1	2	10%
	Female	0	0	0	0	0	0%
University hired staff	Male	2	1	2	0	5	25%
	Female	7	2	0	0	9	45%
Age	Total	10	5	4	1	20	
	Ratio	50%	25%	20%	5%		100%

Note: Gender ratio= newly hired/annual total

## Resigned Full-time Employees 2021

Year	Gender	Age				Total	Ratio
		20-30	30-40	40-50	50-60		
Full-time Faculty	Male	0	0	0	1	1	4%
	Female	0	0	1	2	3	12%
Civil servants	Male	0	0	0	1	1	4%
	Female	0	1	0	0	2	16%
Contract Faculty	Male	0	1	0	1	2	0%
	Female	0	0	0	4	4	8%
University hired staff	Male	1	0	1	0	2	8%
	Female	4	5	3	0	12	48%
Age	Total	20%	20%	28%	32%		
	Ratio	50%	25%	20%	5%		100%

Note: Gender ratio= newly hired/annual total

## 1 Number of faculty and staff:

In order to meet the needs of the University development and the diversity of courses, and consider the effective use of manpower and financial resources, the University hires more personnel annually, launches various innovative administrative businesses, and hires full-time and part-time faculty to help adjust departmental needs, enrich curriculums and empower research and development capacity.

## Number of Faculty and Staff

Academic Year Category	Female	Male	Total
Full-time Faculty	54	171	225
Civil servants	35	19	54
Contract Faculty	5	11	16
University hired staff	112	33	135
<b>Total</b>	<b>206</b>	<b>234</b>	<b>440</b>

## 2 Faculty

In order to meet teaching and learning demands and enhance research capacity, the University encourages the faculty for promotions. According to the number of the faculty in different ranks and ratio, the number of faculty with professor ranks is increasing and assistant professor and lecturer decreasing annually.



Number and Ratio of Faculty in Different Ranks

Rank		Year	2018	2019	2020
Full Professor	Full-time		113	117	119
	Part-time		10	13	8
	Total		123 / 29.41%	130 / 31.48%	127 / 37%
Associate Professor	Full-time		75	74	74
	Part-time		8	11	9
	Total		83 / 21.23%	85 / 20.58%	83 / 24%
Assistant Professor	Full-time		44	33	31
	Part-time		64	80	53
	Total		108 / 27.62%	113 / 20.58%	84 / 24%
Lecturer	Full-time		1	1	1
	Part-time		84	83	50
	Total		85 / 21.74%	84 / 20.34%	51 / 15%
Total	Full-time		223	225	225
	Part-time		166	188	120
	Total		399	413	345

### 3 Student-Teacher Ratio

The student-teacher ratio:

The average student-teacher ratio of the University in the past 4 years is 19.15 (The MOE upper limit of student-teacher ratio is 27), and the student-teacher ratio of the day school system is 17.27 (MOE upper limit for day school student-teacher ratio is 23). The student-teacher ratio is much lower than the MOE upper limit set in the "Total Development Scale and Resource Condition Standards for Schools above Junior College".

## 2. Talent Cultivation

### 1 Faculty recruitment and retention

Faculty's academic career development is fully supported by a comprehensive mechanism to ensure that new faculty receives due assistance early on. NUK has reward systems and measures to encourage them to pursue excellence in teaching, research, University-industry cooperation. The selection of outstanding teacher and special appointment of chair professor system, and a variety of promotion channels are also provided.

### 2 Promotion for Faculty and Staff:

In order to develop the career of faculty and staff, the University transferred 5 staff members internally in 2021; in addition, since the academic year of 2016, it has implemented diversified promotion channels for faculty. The specifications of different promotion models such as teaching practice and research and applied technical practice were completed, and three faculty members in each channel were promoted under these parameters.

#### Faculty Development



#### New faculty Development

- Study sessions
- Mentor system
- Subsidy of fundamental teaching & research facilities

#### In-career learning

##### Teaching:

- Teacher training to encourage innovative & flipped teaching
- Managing professional development groups
- Establish "Teaching & Counseling Advisory Committee"
- Organize all-English teaching seminars

##### Research:

- Comprehensive reward system for outstanding research, Uni-industry cooperation, academic journals
- Establish cross-university joint hiring procedure
- Establish measures to encourage faculty to apply for research projects
- Encourage faculty to attend international conferences and academic cooperation
- Guarantee of basic expense of books and facilities for every department; additional rewards in proportion with project applications

#### Multi-development

##### Talent recruitment & retention

- Promote faculty to study in industry to learn hand-on experiences
- Deepen the links of Uni-Industry cooperation with industries
- Roll revise multi-channel system for evaluation and promotion

##### Multi-development

- Implement flexy salary measures for outstanding talents to encourage faculty's teaching & research
- Encourage faculty to participate in social services & field operations
- Implement the schemes of university teaching quality enhancement scheme, selecting outstanding teachers and flexy salary to encourage participation

#### Faculty Retention

- Establish retention system of retiring faculty
- Hiring retired faculty as emeritus professor

### 3 Awards for Outstanding Faculty and Staff:

In order to encourage the faculty with outstanding performance and acknowledge their dedications and contributions in teaching, the University selects at most 3 university-level teaching excellence awards and at most one teaching innovation award each academic year. Every one of them is awarded NT\$30,000. As for staff, twelve outstanding University hired members will be selected annually starting from the academic year of 2018, and each will be awarded NT\$20,000.

#### 4 Implementation of Staff Review:

- ① The University has adjusted the title of administrative assistant since the academic year of 2014, and strictly implemented the staff review. The staff includes permanent staff in the establishment, the University hired personnel, technicians, workers and security guards. They are required to be reviewed every 4 months, which is the basis to assess their year-end performance.
- ② The current review system is linked with year-end ranking and bonus. Those who are ranked in Grade B and above will be granted full sum of year-end bonus, Grade C will not be issued the bonus, and Grade D will not have the employment renewed.

#### 5 On-the-Job Educational Training

- ① Every staff member (including permanent civil servants, university hired personnel, technician, worker, special sci-tech personnel) should receive 20 hours of education annually.
- ② In order to enhance personnel's professional functions, on-site and digital training is adopted. According to the regulations of civil servant training, the University subsidizes tuition and a miscellaneous fee of NT\$ 8,000.



#### Overview of Staff Educational Training

##### Overview of Staff Educational Training 2021

Staff Category	Number		No. hour		Average training hour per person	
	Female	Male	Female	Male	Female	Male
Staff	147	52	3,320	766	22.58	14.73

Note: Faculty are not obligated to receive educational training; they participate voluntarily in training and workshops; Staff members include civil servants, the University hired, technician, worker and few high-tech personnel.

### 3. Benefits and Rights for Faculty and Staff: All the University permanent faculty and staff are in title of the following benefits and rights:

#### 1 Equal pay for faculty and staff

- ① In category, the payment of faculty salary is in accordance with the teacher treatment regulations; civil servants, in accordance with the law on civil servant salary; the University hired staff in accordance with the regulations of NUK staff employment and management; year-end work bonuses are based on the rules of military, civil servant and education personnel. The starting salary of the personnel employed by the school is based on academic qualification, and the annual review is used as the basis for salary promotion.
- ② Based on the average salary ratio of female to male employees in this calibration formula, it is found that the average salary ratio of female to male for assistant professors and project faculty differs by more than 5%. The analysis shows that the male assistant professors and project faculty are senior to their female counterparts. Thus, the length of service years, the positions, and ranks are the causes of difference, not due to gender.

#### Average Salary Ratio of Female to Male



##### Full-time faculty

Title	Female	Male
Full Professor	1	1.04
Associate Professor	1	1.04
Assistant Professor	1	1.07
Lecturer (No female)	NA	1
Project Faculty	1	1.05
Staff (including military instructor, security guard, etc.)	1	0.97
University hired personnel	1	0.97



Note: The statistics are of the in-service personnel and their salary in Dec. 2020.



## 2 Enhancement for Personnel Health

- Health Division formulates a health promotion plan based on the results of health abnormalities of the personnel and the trend analysis of health checks data, and hold various health promotion activities, such as healthy body posture control, smoke prevention, cancer screening, sex education (including AIDS prevention and treatment), first-aid education and training, to enhance the knowledge and attitude of faculty and staff on health self-management.
- Personnel over forty years old is subsidized for health checks every two years.

### Overview of Permanent Personnel's Parental Leave

Personnel category	Gender	Full-time faculty		Civil servant		Project faculty		University hired	
		Male	Female	Male	Female	Male	Female	Male	Female
Estimated Returning Personnel 2019	A	0	0	0	0	0	0	0	3
No. of Actual Returning Personnel 2019	B	0	0	0	0	0	0	0	2
Returning personnel who continued to serve up to a year 2018	C	0	0	0	0	0	0	0	2
No. of Actual Returning Personnel 2018	D	0	0	0	0	0	0	0	2
Returning rate	B/A	-	-	-	-	-	-	-	66%
Continuing service rate	C/D	-	-	-	-	-	-	-	100%

- In order not to affect teaching and administrative work, the faculty and staff will go abroad for tourism and family visits during winter and summer vacations or on school holidays. However, personnel can apply for personal leave. The University regularly informs personnel to schedule special leave in accordance with regulations, and encourages personnel to arrange days off flexibly.

## 3 Special Personal Leave of Absence and Parental Leave

- The indigenous faculty and staff are entitled to take leave of absence for their rituals and holidays announced by the Council of the Indigenous Peoples.
- In 2021, 9 people were eligible for parental leave, and 9 applied for leave without pay. The institution of parental leave allows the employees to care for their newborns at ease and protects their rights to work.

### Health check subsidy

2019	2020	2021	Year
48	18	66	Number
199,400	105,000	238,500	Amount

## 4 Accessible Communication Channel:

Good communication is based on the principles of active listening, empathy, and sincere acceptance. The University communication mechanism includes formal and informal organizational communication channels, and the Faculty Grievance Committee. The University does not have a union. Nonetheless the University has regularly held four labor-management conferences annually since February 21, 2008, with 26 cases presented from 2017 to 2021. In the conference, the labor and management parties communicated in good faith without violating the labor law, creating a win-win situation.

## 1-3 Financial Overview

### 1-3.1 Financial Management

The University finances are in line with the envisioned development and business needs such as teaching and research. The income and expenditures are reasonably managed and controlled (Note), and the finances are stable.



## Overview of Final Accounting

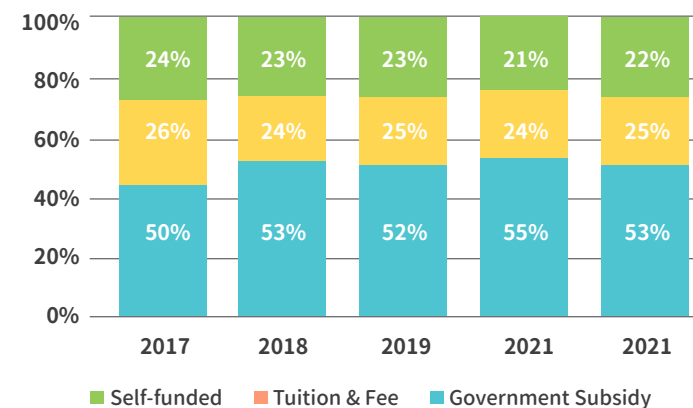
Unit: \$1,000

Item	Final Accounting 2018	Final Accounting 2019	Final Accounting 2020
<b>Business income</b>	<b>1,064,885</b>	<b>1,106,129</b>	<b>1,095,122</b>
Tuition & fee income	293,541	291,247	298,522
Tuition & fee reduction	(15,907)	(16,131)	(16,073)
Work study income	180,316	164,153	177,081
Extension education income	18,768	19,293	27,080
Royalty income	1,080	4,472	1,715
The University teaching & research subsidy income	492,060	487,062	483,374
Other subsidy income	89,941	150,848	118,050
Other business income	5,086	5,185	5,373
<b>Non-business income</b>	<b>48,675</b>	<b>45,802</b>	<b>43,857</b>
Financial income (interests)	9,201	8,124	7,700
Use of asset & royalty income	18,752	15,015	13,075
Donation	10,239	14,450	7,437
Other business income	10,483	8,213	15,645
<b>Income Total</b>	<b>1,113,560</b>	<b>1,151,931</b>	<b>1,138,979</b>
<b>Business cost and expense</b>	<b>1,188,042</b>	<b>1,238,139</b>	<b>1,204,773</b>
Teaching, research & counseling cost	818,788	880,763	826,001
Work study cost	175,858	159,290	181,099
Extension ed cost	17,910	18,025	25,526
Student scholarship & award	23,277	21,032	16,132
Management and general expense	148,302	155,207	152,208
Other business expense	3,907	3,822	3,807
<b>Non-business expense</b>	<b>26,237</b>	<b>36,256</b>	<b>25,308</b>
<b>Cost &amp; expense Total</b>	<b>1,214,279</b>	<b>1,274,395</b>	<b>1,230,081</b>
<b>Surplus (Deficit-)</b>	<b>(100,719)</b>	<b>(122,464)</b>	<b>(91,102)</b>
Building, improving and expanding permanent asset	170,602	249,702	187,496
Intangible asset	8,620	5,562	9,146
Total capital expenditure	179,222	255,264	196,642
Total expenditure	1,393,501	1,529,659	1,426,723

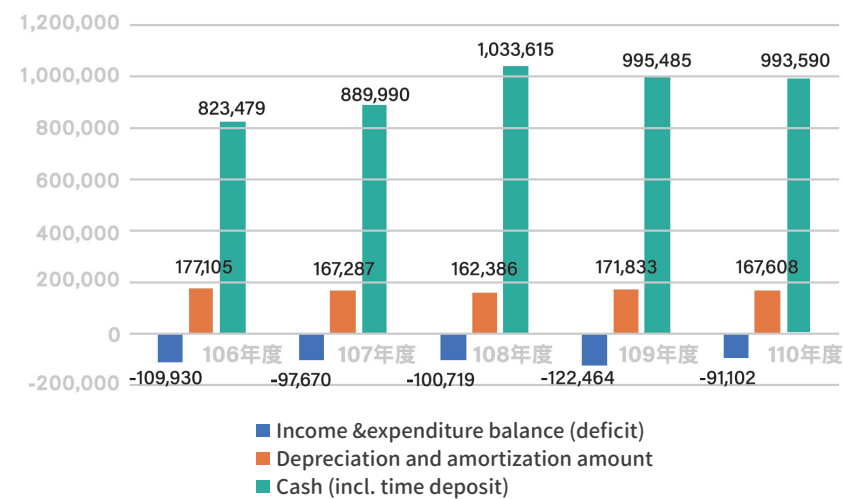
Note:

1. In 2020, the revenue and expenditure of the final accounts business increased mainly because the Ministry of Education subsidized the school to handle the funds for the National College Sports Games.
2. The increase in capital expenditure in the final accounts of 2.109 is mainly due to the subsidy by the Ministry of Education for the school to handle the relevant funds for the National College Sports Games.

## Ratio of revenue source for current account

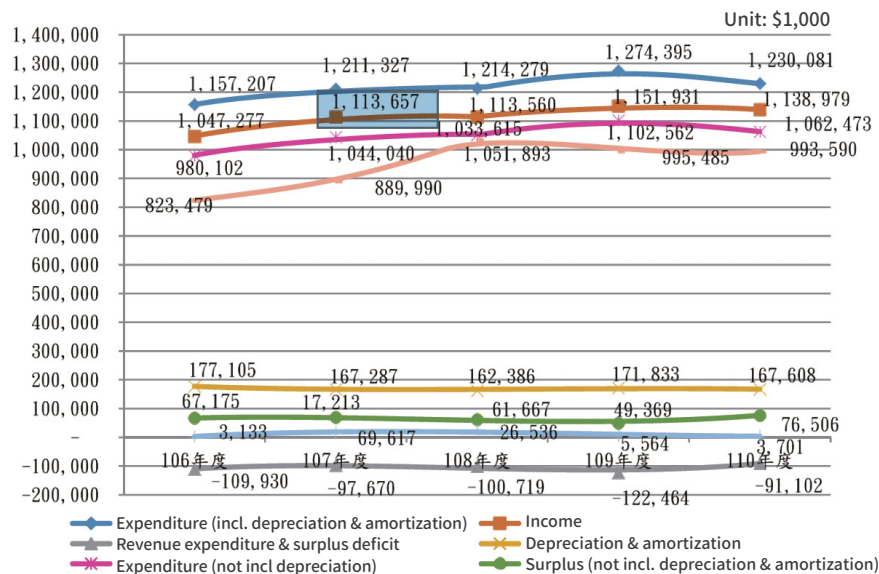


## Income & expenditure balance (deficit), depreciation and amortization amount, cash (incl. time deposit)





Financial trends of revenue, expenditure &amp; cash



Unit: \$1,000

Fiscal year	2019	2020	2021
Revenue	1,113,560	1,151,931	1,138,979
Expenditure (incl. depreciation & amortization)	1,214,279	1,274,395	1,230,081
Revenue expenditure & surplus deficit	-100,719	-122,464	-91,102
Depreciation & amortization	162,386	171,833	167,608
Expenditure (not incl. depreciation)	1,051,893	1,102,562	1,062,473
Surplus (not incl. depreciation & amortization)	61,667	49,369	76,506
Substantive surplus (deficit)	26,536	5,564	3,701
Cash & Time deposit	1,033,615	995,485	993,590

### 1-3.2 Financial Risk Assessment

According to Article 30, the National University School Affairs Fund Management and Supervision Measures: "If the school implements the school affairs fund in one of the following situations, MOE may order the school to improve within a time limit; if there is no improvement by the deadline, the situation may be adjusted according to the gravity of the matter. It will lower the ratio set in Section 1 of Article 9, either to pay the upper limit or it will not pay at all:

The annual final accounts fall short in substance.

Clauses 1-3, Section 1, Article 8: Personnel expenses exceed 50% of the self-raised income of the latest annual final accounts

The available funds are too low and affect the soundness of the school affairs fund.

In accordance with the financial risk warning indicators, a brief description of the financial situation of the University in recent years is as follows:

#### 1. The actual surplus of the annual final accounts has no shortfall in the actual annual final accounts.

##### 1 Regulations

(1.1) According to Article 30 of the National University School Affairs Fund Management and Supervision Measures, if the school's implementation of the school affairs fund has an "annual financial shortfall", MOE may order the school to improve within a time limit; if there is no improvement by the deadline, it will lower the upper limit or limit the personnel expenditure ratio of "the basic salary (annual merit salary) and other than the bonus of the staff in the establishment, the performance remuneration for the administrative staff in the establishment in handling the self-raised income business, the personnel expenses of the staff outside the establishment, lecture funds, teaching and academic research awards."

(1.2) According to Article 21, Paragraph 2, "substantive shortfall of annual account" refers to the school annual revenue and expenditure surplus (deficit) is short after adjusting and adding the depreciation, depletion and amortization expenses for the purchase of assets with the funds allocated by the Treasury according to general accounting principles.

## 2 Calculation results of 2019-2021:

The shortfalls of the University's revenue from 2019 to 2021 was NT\$107,190,000, NT\$122,464,000, and NT\$91,102,000, respectively. The results were calculated according to the regulations on substantive surplus (deficit) in the Measures. The actual surpluses from 2019 to 2021 were NT\$26,536,000, NT\$5,564,000 and NT\$3,701,000 respectively.

### Details of substantive surplus (deficit)

Unit: \$1,000

Item	2019	2020	2021
Term surplus (deficit)	-100,719	-122,464	-91,102
+ Surplus after adjusting and adding the depreciation, depletion and amortization expenses for the purchase of assets with the funds allocated by the Treasury according to general accounting principles.	127,255	128,028	94,803
= surplus (deficit) after adding the depreciation, depletion and amortization expenses f the Treasury according to general accounting principles.	26,536	5,564	3,701

## 2. Personnel expenditure is controlled within 50% of self-raised income:

According to Article 9, Paragraph 1 of the Measures, the University shall use self-raised income to pay: 1) the basic salary (annual salary) of the personnel expenditure in the establishment and other additional allowances; 2) the remuneration for the administrative personnel in the establishment who raises and gains income for the University; 3) personnel expenditure of the personnel outside the establishment 4) lecture expenditure, 5) teaching and academic research awards, the total shall be limited to 50% of the self-raised income in the most recent annual final accounts. According to statistics, the actual payment of the personnel expenditure from 2018 to 2020 is NT\$210,237,000, NT\$261,730,000, and NT\$266,150,000, respectively. The ratio of self-raised income for personnel expenditure in the latest annual final accounts is 39.96%, 38.79% and 40.20% respectively; the ratio does not exceed the upper limit of 50%, the University used the self-raised income to pay according to Article 9, Paragraph 1 of the Measures. Personnel expenditure is reasonably controlled to reach the goals of sustainable development.

### Personnel expenditure accounted for the most recent annual final accounts self-raised income

Item	Final account 2019	Final account 2020	Final account 2021
The basic salary (annual salary) of the personnel in the establishment and other additional allowances	43,786	41,330	40,978
+Personnel expenditure for non-establishment personnel	163,013	161,202	162,188
+Remuneration for the administrative personnel in the establishment who raises and gains income	2,518	2,631	2,519
+Lecture expenditure	600	550	480
+ Teaching & research awards	320	460	450
= Total personnel expenditure (A)	210,237	206,173	206,615
Total of the self-raised income in the latest annual final accounts (B)	526,117	531,559	514,021
Ratio of personnel expenditure & the self-raised income (C=A/B)	39.96%	38.79%	40.20%

## 3. The available funds can healthily maintain the University Fund:

The funds available at the end of the year can still maintain a certain level of multiples of the average monthly cash current expenditures in the final accounts of the most recent year. According to Article 10, Paragraph 2of the Measures, the available funds refer to the total of cash plus short-term realizable assets and deducting short-term liabilities to be repaid number. From 2019 to 2021, the safe stock of funds available to support the University's regular operations, accounting for the average monthly cash current expenditure in the latest annual final accounts, is as follows:



The year-end available funds accounted for the average monthly cash expenditure of the most recent annual final accounts

Item	Final account 2019	Final account 2020	Final account 2021
<b>1. the year-end available funds</b>			
Cash & time deposit (D)	1,033,615	995,485	993,590
Short-term realizable asset (E)	50,797	44,553	16,181
Short-term liabilities (F)	292,330	358,565	408,189
Number of unimplemented projects subsidized by capital expenditure	76,364	7,755	26,639
Available funds (H=D+E-F-G)	715,718	673,718	574,943
<b>2. cash expenditure of the most recent annual final accounts</b>			
Total business expenditure	1,214,279	1,274,395	1,230,081
Depreciation, depletion and amortization	162,386	171,833	167,608
Cost of work study	175,858	159,290	181,099
Depreciation, depletion and amortization under the cost of work study programs	9,729	9,760	9,620
Cash current expenditure (I)	885,764	953,032	890,994
Average monthly cash expenditure (J=I/12)	73,814	79,419	74,250
<b>3. the year-end available funds accounted for the average monthly cash expenditure multiple</b>	<b>9.70</b>	<b>8.48</b>	<b>7.74</b>

4. Finally the financial revenue and expenditure and financial risk early warning indicators of the University over the years have been properly controlled and complied with the regulatory measures. However, in response to the development of higher education and the sustainable operation of the school fund, in addition to the principle of financial self-sufficiency, the University will continue to implement the relevant measures to increase revenue and reduce expenditure, strengthen financial management and control, and promote the flexible operation of finances, so as to improve the quality of education and improve educational performance.
5. Current response measures: In response to the estimated decrease in the number of students with declining birth rates in the future, and considering the trend of the financial situation in recent years, the measures are formulated by the University and briefly described below:



## 1 Create revenues - expand self-raised funds

- ① Income from work study program and extension education: According to the University policy to implement revenue expansion and expenditure reduction, adopt concrete measures such as actively seeking income from industry-university cooperation and project subsidy programs, expanding extension education to increase revenues for the University affairs fund.
- ② Financial income: continue to strengthen capital investment management to create maximum investment income.
- ③ Donation income: specify the fundraising goals and integrate the University annual development key plans, such as building construction, scholarships, lectures and academic conferences, and improving facilities.
- ④ Increase University's management fee for overall planning: reasonably increase the proportion of the management fee of the University's overall planning and include it in the University's affairs fund to compensate fallshorts.
- ⑤ Increase interest income: occasionally review cash flow, flexibly allocate funds, and transfer idle funds to fixed deposits to increase interest income
- ⑥ Set reasonable charge and make full use of equipment and venues: All units should regularly review current income, set reasonable charging standards based on the depreciation and usage of buildings, equipment and space, and make full use of the University's facilities and venues, such as venues on loan, etc.

## 2 Save cost

- ① Reasonably manage manpower, flexibly adjust post and apply management mechanisms, efficiently organize manpower and manage personnel expenditures.
- ② Control the number of full-time faculty posts, and reserve certain amount of personnel expenses as part-time teaching faculty's hourly wages
- ③ Strictly control the number of faculty and class hours, expand class size to help teaching development and save faculty's hourly wages.
- ④ The design of a project is based on the principle of practicality, and the common procedures and materials are used to reduce construction and maintenance costs.
- ⑤ The property of the teaching and research unit is used effectively. If each unit does not need to use or damage the idle property, it can be repaired and the property information will be announced on the website, so that those who need it can apply for transfer and renewal to make the best use of the property.

- ⑥ The air-conditioning system should purchase additional fans to respond to specific measures to save energy, so as to achieve the purpose of saving energy and integrating and sharing resources.

In accordance with the University's main policies of revenue and expenditure, the implementation of each unit in the University is reported to the management committee of the University affairs fund to track its effectiveness on a quarterly basis every year.





# 2

2-1 Special Features,  
Development Vision  
and Principles

2-2 Risk Analysis

2-3 Vendor management  
operations

2-4 Stakeholder engagement  
& Identifying Major Topics  
and Boundaries

## Chapter 2

# Operations of University Affairs

## 2-1 Special Features, Development Vision and Principles

### 2-1.1 The Concept of University Affairs Development

National University of Kaohsiung (hereafter NUK), founded in 2000, was the last new national university in the period of education reform to promote university autonomy and to widely build universities. The motto's "Knowledge, Perseverance, Virtue, and Innovation" indicate our expectations for students to be knowledgeable, socially responsible, building solid character and thinking creatively. Initially NUK aimed at developing special features of a green university based on overall construction of a community and the concept of a sustainable campus. It also pursues the development of a research university model same as most universities.

With technology-driven industrial transformation and changes in the higher education environment, the interaction between the role of university in society and the overall stakeholder has become the key to the university's self-positioning. It is fully reflected in the changes of how the trend of global higher education evaluates the quality and effectiveness of university education. For example, in 2010, the Organization for Economic Cooperation and Development promoted the "Evaluation of the Effectiveness of Higher Education Learning", which emphasizes the effectiveness of student learning. The evaluation of nation-wide departments in 2012 also shifted from "teacher-centered" to "student-centered".

The cultivation of talents also pays more attention to using multiple capacities to apply and transform knowledge, rather than focusing only on professional-oriented knowledge learning. Therefore, through design thinking and problem-solving methodology, and relaxing the system to create a flexible teaching and learning environment, to provide students with meaningful, diversified, interdisciplinary and mixed-age learning environment to cultivate five major mobilities of students, and set targets of accountability for implementation.

In 2017, a University consensus meeting for Higher Education Sprout Projects was held to envision the future. Under the professional guidance, the faculty and staff reviewed the past, planned the future, and reached a consensus on our vision. Then a school-wide student symposium was held. Finally the 2018-2022 mid-range school development plan (The latest edition revised in May 2019) was proposed, envisioning "a university of special features with international prestige". It emphasized three major positions: "combining teaching research and industrial development, emphasizing humanistic culture and science-technological innovation, and cultivating elite and talents". It put forward five major strategies and twenty corresponding Sprout actions.

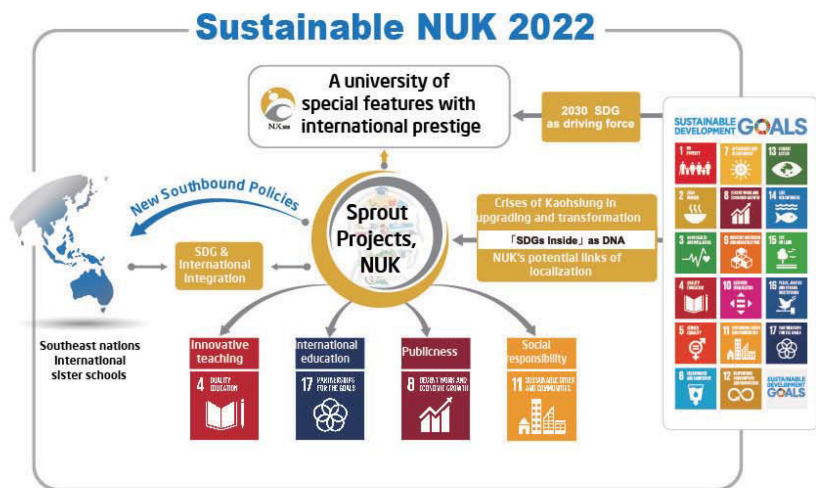
### 2-1.2 Founding Philosophy and Special Features

In 2004, NUK was the first national university in Taiwan to sign the Talloires Declaration to join the rank of International Green University, and have won many awards ever since, including MOE's "Green University Model School" in 2009 and "Promotion of Environmental Protection School" first place in the college group in 2010, "Water Conservation Distinction Award" in Water Conservation Contest by Water Conservancy Agency, the Ministry of Economic Affairs in the college group in 2014. Since 2014, the



faculty and students have worked in an ecological protection volunteer team with the residents from the surrounding community to carry out ecological monitoring, education, and butterfly restoration projects. Through the hard work of Sprout Projects, and Judge's Award in National Sustainability Development Award of the Executive Yuan in the education category; in 2019 it won Gold Award of 2020TCSA Corporate Sustainability Reports in the university category. Since 2019, it has won the Gold Award of TCSA Corporate Sustainability Reports in sustainability report category for three consecutive years.

#### Mid-ranked university development plan guided by SDGs-Inside



#### 2-1.3 NUK's Vision

In 2015, the United Nations issued 17 Sustainable Development Goals (SDGs) and 169 Sustainable Development Targets for 2030, addressing the risks faced by the world from three aspects – economic growth, social progress, and environmental protection, and focusing on government power and policy, enterprises and university's social responsibility in order to promote sustainable development. In 2016, the International Association of University Presidents (IAUP) called on global universities to integrate SDGs and the concept of global citizenship into the university education system.

For NUK, Sustainable Development Goals is a very important opportunity to strengthen the special features of a sustainable campus, and it is also an

international common language to connect with the international community. Therefore, in 2017, with "Green University 2.0" as the goal of a special feature, NUK development plan proposed to use SDGs-Inside as the core action guide to transform the University. In four aspects: organization, teaching, research, and external cooperation, the University integrated SDGs into the school affairs development plan, cooperated with the higher education Sprout Projects, formulated key tasks for 2017-2022, introduced the practice of university social responsibility and higher education publicness, and responded to Item 4 "Quality of Education", Item 8 "Employment and Economic Growth", Item 11 "Sustainable Cities" and Item 17 "Global Partners" of SDGs as the four cores of the University SDGs-Inside.

In the 2021 University Impact Rankings, NUK's ranking in Taiwan has increased from the original No. 29 to No. 20. It is also ranked No. 9 in SDG 16 "Peace and Justice System" and SDG17 "Global Partner", it performed well.

#### 2-2 Risk Analysis

NUK is a comprehensive university, with 23 departments in the Humanities and Social Sciences College, the Law College, the Management College, the Science College, and the Engineering College. In 2018, the virtual IF School was founded. In response to external opportunities, risks and challenges created by domestic and foreign higher education, industry, and government policies, the University used the concept of stakeholder to conduct SWOT analysis.

In the face of higher education's increasing emphasis on learning achievement-oriented evaluation, data/evidence-oriented educational decision-making, and the WTO's announcement of the ten key capabilities of future talents in 2020, it emphasizes problem-solving, interdisciplinary innovation capabilities, and student learning-centered innovation teaching. MOE launched "Teaching Excellence Project", "Takeoff Project for Underprivileged" and other related key programs in focus of student-centered learning and emphasized cultivating five mobilities for students, including adaptability, interdisciplinary, international and lifelong learning in addition to innovative mobility. It built and optimized the administrative system, administrative and teaching platform system database and integration, assisted faculty to implement adaptable, individualized teaching and counselling, innovative teaching as well as encouraged colleges and departments to integrate and develop courses and curriculums with special features, and to establish external cooperation network to increase NUK's international reputation and local connections.



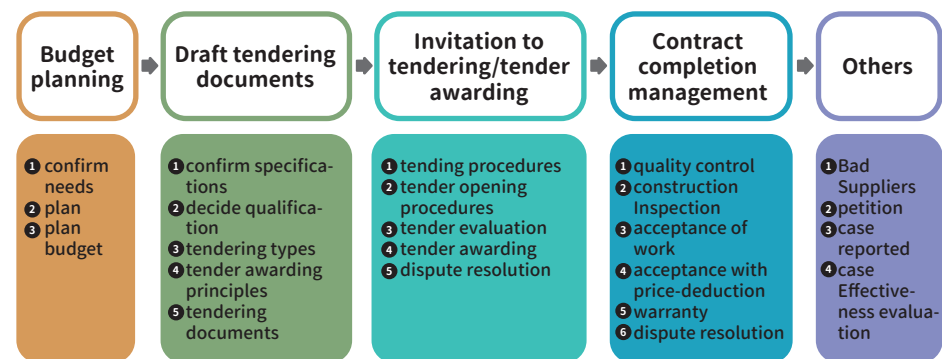
## Analysis of NUK Education SWOT

Area	External risks	Internal advantage	Inside disadvantage
School management	<ul style="list-style-type: none"> <li>declining birthrate</li> <li>diversified admission channels</li> <li>data-driven decision making</li> <li>interdisciplinary expertise</li> </ul>	<ul style="list-style-type: none"> <li>stable source of student enrollment</li> <li>establishment of learning evaluation standards</li> <li>lowering the threshold for students to transfer</li> <li>electronic system</li> <li>complete innovation teaching system</li> </ul>	<ul style="list-style-type: none"> <li>lacking data coordination in offices &amp; departments</li> </ul>
Innovative entrepreneurship	<ul style="list-style-type: none"> <li>Kaohsiung City established Youth Bureau</li> </ul>	<ul style="list-style-type: none"> <li>fruitful results of Incubation Center</li> </ul>	<ul style="list-style-type: none"> <li>Cultivation of Innovative Entrepreneurship not systemized</li> </ul>
Expertise talent	<ul style="list-style-type: none"> <li>Policy for talents in prospective study</li> </ul>	<ul style="list-style-type: none"> <li>Kaohsiung designated as AVR Somatosensory Technology City faculty specialized in AI and Somatosensory Technology fruitful results in international competitions</li> </ul>	<ul style="list-style-type: none"> <li>Lacking coordination of faculty team in prospective study</li> </ul>
International education	<ul style="list-style-type: none"> <li>UN SDGs</li> <li>Business social responsibility (CSR)</li> <li>New Southbound Policy</li> </ul>	<ul style="list-style-type: none"> <li>founding special feature: Green University</li> <li>approved by international rankings</li> <li>establishment of International Office</li> <li>establishment of Southeast Offices</li> <li>high foreign student origin from Southeast Asia</li> <li>high proportion of all English curriculum</li> </ul>	<ul style="list-style-type: none"> <li>lacking outside sustainable recognition of talent cultivation</li> <li>imbalance of student origin from Malaysia</li> <li>lacking coordination of learning resources for overseas students outside Taiwan</li> </ul>
Publicness	<ul style="list-style-type: none"> <li>popularization of higher education</li> <li>equal educational opportunity</li> <li>raise admission quota for indigenous students</li> <li>empirical orientation decision-making</li> </ul>	<ul style="list-style-type: none"> <li>guarantee admission for underprivileged students</li> <li>established Indigenous Student Resource Center</li> <li>established University Affairs Research Center &amp; university affairs database</li> </ul>	<ul style="list-style-type: none"> <li>guarantee underprivileged students' visits abroad</li> <li>research data volume of university affairs needing increase</li> </ul>
Social responsibility	<ul style="list-style-type: none"> <li>course selection of 2019 Master Framework for Basic Education Curriculum</li> <li>local revitalization policy</li> </ul>	<ul style="list-style-type: none"> <li>long-term cooperation of national education, industry-university and community coordinate with social practice curriculum</li> <li>established the Development &amp; Research Center for Basic Science Education in the Science College</li> </ul>	<ul style="list-style-type: none"> <li>Lacking coordination of special faculty team &amp; enhancing special local features</li> </ul>

## Procurement scale and tending methods

Budget Amount	Approval of Procurement	Authorize Base Price	Person in Charge of Tender Opening	Main Person in Charge of Acceptance of Work
Under \$30,000	Supervisor of the request department unit			Personnel from of the request department unit
\$30,000-\$100,000	Chief Secretary			Personnel from of the request department unit
\$100,000-less than \$500,000	Vice President of Administration	Dean of General Affairs	Supervisor of General Affairs or his/her deputy	Dean of General Affairs or his/her deputy
\$500,000-less than \$100,000	Vice President of Administration	Vice President of Administration	Dean of General Affairs or his/her deputy	Dean of General Affairs or his/her deputy
In excess of \$100,000	President	President	Vice President of Administration or his/her deputy	Vice President of Administration or his/her deputy

## Purchasing operation flow chart



## 2-3 Vendor management operations

The University's services provided by business partners mainly include office equipment, equipment, engineering construction, and cleaning and security services. NUK is a public agency, and procurement needs to comply with the procurement law set by the Public Works Committee of the Executive Yuan. The purchase exceeding NT\$100,000 is open procurement based on different procurement amounts, and performed and managed according to the contract.



- Confirm source of funding and procurement value
- Order by mutual supply contract
- Request for approval, & formulate procurement list and specifications
- Decide the best measure to invite tendering

## Responsibility of Procurement Procedure

Procurement scale		Large procurement	Threshold for Supervision	Threshold for Publication	Less than Threshold for Publication & not exceed 1/10	Small Procurement
Procurement type	Construction work	\$200,000,000	\$50,000,000	\$10,000,000	in excess of \$100,000 & under \$1,000,000	Under \$100,000
	Property	\$100,000,000	\$50,000,000			
	Service	\$20,000,000	\$10,000,000			
Invitation to Tendering/ Tender Awarding		Open tendering procedures (Art. 19)		Art. 23: “Measures for Tendering for Unreached Procurement Amount by Central Authorities” item 2	Art. 23: “Measures for Tendering for Unreached Procurement Amount by Central Authorities” item 5: Contact manufacturer for purchase without announcing tendering procedure; no need for quotations or plans	
		Selective tendering procedures (Art. 20 & 21)				
		Limited tendering procedures (Art 22: complied with Art 22.1.1-16)				
		Principles of Contract Award		1. 22.1.1-15		
		Lowest tender, the most advantageous tender (Art. 52), Fixed price tender		2. 22.1-16 Limited tendering procedures		
				3. Publicly solicit manufacturers to provide written quotations or plans (open acquisition)		

## Supplier Category

Year	Category	Property	Construction Work	Service
2019	Number	25	1	27
	%	47%	2%	51%
2020	Number	30	5	34
	%	43%	7%	50%
2021	Number	42	8	36
	%	49%	9%	42%

## 2-4 Stakeholder engagement &amp; Identifying Major Topics and Boundaries

## 2-4.1 Stakeholder Engagement

In 2018, through internal discussions among representatives of the University Affairs Council and the heads of various departments, and in reference to the stakeholders identified by the other universities, NUK identified the stakeholders, whether individuals or organizations, that directly or indirectly affected the University, thus including students, faculty, staff, alumni, parents and community members, enterprises and NGOs. The related communication channels are as follows:

## Measures and frequency of stakeholder engagement

Stakeholder	Concerned Topics	Measures of engagement	Frequency
Students	<ul style="list-style-type: none"> <li>Campus safety</li> <li>Learning resource</li> <li>Learning achievement</li> <li>Fair and non-discriminatory learning environment</li> <li>Employment opportunity</li> <li>Environment protection</li> <li>Green beautification of campus</li> </ul>	Student conference	1 per year
		Departmental association and club leaders' meetings	8 per year
		Dialogue between the University & clubs	2 per year
		Dormitory resident assembly	4 per year
		Meetings of graduate representatives	4 per year
		Letter Box for every office	Occasionally scheduled
		"I Have Something to Say" web page	Occasionally scheduled
Faculty	<ul style="list-style-type: none"> <li>Teaching and research environment</li> <li>Training and review</li> <li>Faculty promotion</li> <li>Benefits</li> <li>Insurance</li> <li>Campus safety</li> </ul>	Class Advisor Counseling Competency Workshop	15-22 per year
		New faculty meetings & mentor system	2 per year
		Public hearing	Occasionally scheduled
		Faculty teaching workshop	Occasionally scheduled
		Letter Box for every office	Occasionally scheduled
Staff	<ul style="list-style-type: none"> <li>Educational training</li> <li>Assessment and promotion</li> <li>Benefits</li> <li>Insurance</li> <li>Campus safety</li> </ul>	Newsletter for personnel services	Monthly
		Labor and management meeting	Quarterly
		Faculty and staff meeting	Annually
		Letter Box for every office	Occasionally scheduled
Alumnus	<ul style="list-style-type: none"> <li>Opportunity to return learning</li> <li>continuing learning</li> <li>Alumni associations</li> </ul>	Founder's Day Ceremony	Annually
		Alumni association	Occasionally scheduled
		Board of Directors and Supervisors of Alumni Associations	Quarterly
		Letter Box for every office	Occasionally scheduled



Stakeholder	Concerned Topics	Measures of engagement	Frequency
Parents and community members	<ul style="list-style-type: none"> <li>Student learning resource</li> <li>Student learning achievements</li> <li>Campus management</li> <li>Employment opportunity</li> <li>Industry-University Cooperation</li> <li>University reputation</li> <li>Environment protection</li> <li>Green beautification of campus</li> </ul>	Parent-Teacher meeting	Annually
		Mailbox for feedback	Occasionally scheduled
		Letter Box for every office	Occasionally scheduled
Enterprise	<ul style="list-style-type: none"> <li>Student quality</li> <li>Practical competency</li> <li>Industry-University Cooperation</li> <li>Research &amp; development capacity</li> </ul>	Contract signing ceremony	Occasionally scheduled
		Industry-University matching meeting, Industry-University exchange meeting, Business briefing	Occasionally scheduled
		Other enterprise endeavors	Occasionally scheduled
		Industrial Settlement Alliance meeting	Occasionally scheduled
		Letter Box for every office	Occasionally scheduled
NGOs	<ul style="list-style-type: none"> <li>Campus management</li> <li>University reputation</li> <li>Environment protection</li> <li>Green beautification of campus</li> </ul>	Contract signing ceremony, orientation, member meeting	Occasionally scheduled
		Letter Box for every office	Occasionally scheduled

### 1 Students

- ① Student forums: The President and Student Forum is held every academic year, and the first-level administrators also attend the meeting, respond to students' opinions, communicate and explain on the spot. Afterwards, the feedback will be announced publicly. Between 2014 and 2021, 8 meetings were held with the participation of 970 people. In addition, various departments schedule briefings and activities occasionally for students to interact and communicate with the faculty and staff.
- ② Forums between student associations and student self-governing bodies: Departmental associations, student associations and student dormitory self-governing association regularly meet to discuss the approach for various activities and the principles of funding subsidies, and thus to understand the development of students' soft power in-depth and revise the University's soft power development program.

### Conferences between the University and student self-governing bodies

Item	Frequency	No. Participants
Dept associations & Group Growth Meetings	8 per year	About 400
Dialogue between University & Student associations	2 per year	About 180
Dorm residents meeting	4 per year	About 200
Representatives of Graduates meeting	4 per year	About 160

- ③ Permanent feedback channel: The Student Affairs Office will e-mail feedback from the "I Have Something to Say" webpage to the secretary or person in-charge of every office; every college and office has an email account and contact phone number to communicate with related parties. "I Have Something to Say" the Student Affairs Office responded to 116 cases in 2013, 185 in 2014, 208 in 2015, 119 in 2016, 26 in 2017, 39 in 2018, 17 in 2019, and 15 in 2021.

### 2 Faculty

- ① Organizing counseling competency workshops for class advisors to learn about student counseling: The Student Affairs Office regularly organizes class advisor counseling learning conferences, lectures and workshops; it also co-organizes various activities such as exchanging counseling experiences and promoting awareness among different colleges.

2018		2019		2020		2021 Fall	
No. participant	No. session	No. participant	No. session	No. participant	No. session	No. participant	No. session
341	15	262	12	341	10	202	8

- ② Organize new faculty meetings and mentor systems: to help new faculty understand the functions of different offices, administrative regulations, and applications. A total of 31 faculty members and 6 sessions of brown-bag meetings were organized from 2018 to 2021 for new faculty members and they were fully attended.
- ③ Faculty teaching empowerment workshop: to facilitate the faculty's understanding of pedagogy, such as workshops on all-English teaching, Multiple Credits, and innovation and practice in addition to other pedagogical topics. Since 2018, more than 30 sessions have been held and 516 people participated.

### 3 Staff

- ① Disseminate personnel laws and regulations: to update related laws and regulations monthly, compile newsletters and publish them by email monthly to disseminate the relevant information.
- ② Strengthen labor-management relations: NUK holds labor-management meetings quarterly to discuss and update the interests of both parties to strengthen labor-employment relations and protect labor rights.
- ③ Communication and feedback of faculty and staff: Meetings for faculty and staff are held. The topics raised in the meetings were properly studied and discussed by the related offices which followed the administrative procedures or submitted the report to the administrators in charge, administrative meetings and other related meetings for discussion. The raised topics are regularly tracked until they are resolved.

### 4 Alumni

Alumni associations usually attend the Founder's Day Ceremony, commencement or occasional home-coming activities. Different forums and luncheons enhance the interactions among faculty, students and alumni for close bonds and exchange of information.

In terms of building a network with alumni, NUK has "National University of Kaohsiung Alumni Association, ROC" filed by the government. The board of directors and supervisors meet in the second week of every three months, and a general assembly meets annually to establish channels for the members to return regularly. In addition to caring for their alma mater, they provide scholarships and bursaries for students with financial disadvantages. Furthermore, two departmental alumni associations have been filed by the government i.e. the Department of Faculty of Law, NUK, Kaohsiung City, and the EMBA Department of NUK.

### 5 Parents and Community Residents

- ① Parent-teacher meetings: Freshman students' parents are invited by special mail to meet with the NUK officials annually with 80-120 attendances respectively. The parents are able to understand different aspects of NUK and to ask questions and the potential problems in the university life. Proper suggestions and strategies for counseling are proposed in order to reach three wins for faculty, parents and students. The topics, feedbacks and implementations of the discussions are updated on the University homepage for parents.
- ② Feedback mailbox: In order to improve administrative efficiency and reform, the old "Immediate Feedback System" was revised, and replaced by "Feedback Mailbox" which has been in use on NUK homepage since August 1, 2017. The handling of any issue takes 14 work days in principle.

### 6 Enterprises

NUK actively engages and interacts with the local business community, and arranges meetings between the President and all levels of administrators to visit outstanding business groups and leaders. It aims to meet the needs of local businesses by utilizing NUK's expertise and foresight. In return, it is to obtain resources, and to expand the potential of enterprise-industry cooperation and channels of donation. In addition, from time to time NUK participates in or holds the memorandum of industry-university cooperation signing ceremony (such as Advanced Semiconductor Engineering Inc., Hwa Fong Rubber Ind. Co., Ltd), Industry-university matching or briefings (such as Hundreds of Industry and Business Opportunities Exchange Meeting sponsored by Overseas Chinese Affairs Council, 5G+, DIGI+ Program and Talents briefings), other business activities (such as Innovative Contest, Industry-University Cooperation and Exchange Conference) and joins the industrial settlement alliance (such as Industry-Academia Policy Promotion Consortium for Taiwan Qiaotou Science Park Industry-Academia Association, Industry-Academia Consortium for Southern Science) to publicize NUK's R&D capacity and industry-university cooperation as well.



## Conferences between the University and student self-governing bodies

Activity	2018	2019	2020	2021
Contract signing ceremony	3	2	3	2
Industry-university matching, industry-university exchange forum, & briefings	3	8	4	4
Other business activity	2	4	2	5
The industrial settlement alliance forum	4	5	4	4

## 7. NGOs

The University adheres to the ideal of "Green NUK, Green Environment" to achieve the goal of a sustainable university. In 2004, it signed the Tallories Declaration, the first national university in Taiwan to be listed among the green universities in the world. It also joined "Taiwan Green University Alliance" to actively implement the Tallories Declaration and take up social responsibilities and tasks.

Every four years, NUK accepts the Higher Education Evaluation Center Foundation to conduct an evaluation entrusted by MOE. Each evaluation has been approved by the evaluation committee, and NUK continues to improve based on the committee's recommendations. In addition, NUK participates in organizing the high school English listening test, subject proficiency test and designated subject test held by the University Entrance Examination Center every year. So far, no major flaws have been found, and the examinations have been satisfactorily held.

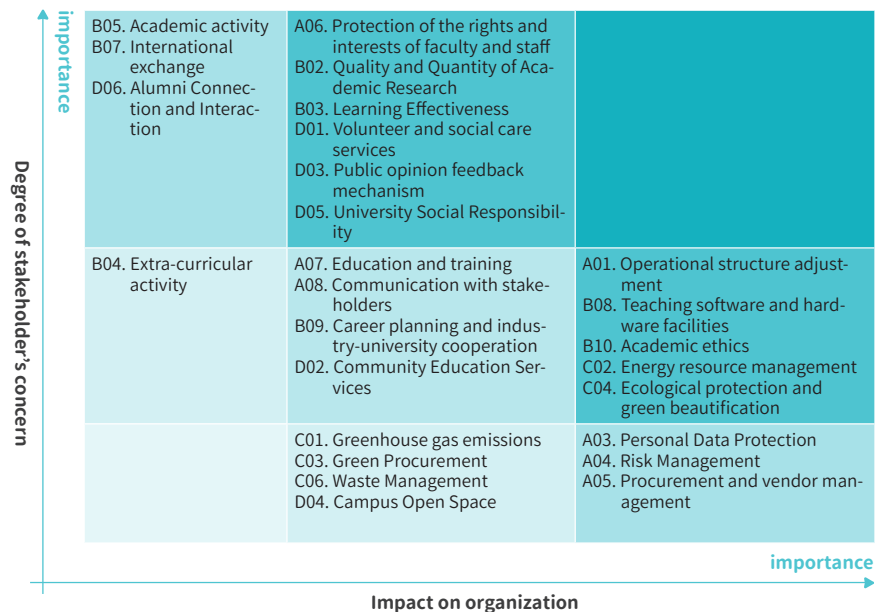
## 2-4.2 Identifying Major Topics

NUK convened the representatives of the University Affairs Committee, the heads of different offices, and the faculty and staff to discuss internally about the impact of various major topics and formed a matrix chart to identify them which are investigated. Five steps were taken:

## Analysis of substantive topics

- 1 Identify stakeholders** > Through convention of the University Affairs Committee members (incl. head administrators, the college faculty representatives, student representatives and staff representatives) and departmental heads and the convening members, 7 categories of stakeholder are identified in reference to the stakeholder groups identified in the CSR report of the homogeneous agency.
- 2 Collect topics of sustainability** > The topics collected mainly came from external and internal sources. Based on the standards published by Global Reporting Initiative, the representatives of the University Affairs Committee screened topics and compiled a preliminary list of concerns. The internal source was collected by the sustainable management office through discussion and feedback and was compiled into a total of 32 topics in four aspects.
- 3 Analyze major topics** > In 2021 NUK worked with different stakeholders in conference, internet, briefings, analyses of feedback in the letter box of different offices and determined the weight value of the evaluation criterion
- 4 Ranking of substantive topics** > In 2021, after analysis and discussion, NUK identified 16 major topics (seen in Table 2-5). The scores and weights of each issue under different evaluation criteria, the management impact on sustainable operations and the degree of impact were considered. It calculated the risk priority of each topic, so as to formulate the disclosure priority, and formulate an effective management approach for each topic.
- 5 Review and discussion** > After analyzing the ranking of major topics, response chapters, and boundary analysis, NUK will continue to strengthen management in the future and expose relevant information in the sustainability report

Diagram of the materiality analysis of major topics



Four aspects and the category of topics of concern

Aspect	Topics
<b>A Operation of University Affairs</b>	A01. Operational structure adjustment, A02. Financial control, A03. Personal data protection, A04. Risk management, A05. Procurement and vendor management, A6. Protection of rights and interests of faculty and staff, A7. Education and training, A8. Communication with stakeholders, A9. Labor occupational safety and health
<b>B Academic and Student Affairs</b>	B01. Teaching Quality, B02. Quality and Quantity of Academic Research, B03. Learning Effectiveness, B04. Extracurricular Activities, B05. Academic Activities, B06. Students' Physical and Mental Health, B07. International Exchange, B08. Teaching Software and Hardware Facilities, B09. Job Career Planning and Industry-University Cooperation, B10. Academic Ethics
<b>C Campus environment</b>	C01. Greenhouse gas emissions, C02. Energy resource management, C03. Green procurement, C04. Ecological protection and beautification, C05. Campus safety, C06. Waste management, C07. COVID-19 epidemic prevention
<b>D Social inclusion</b>	D01. Volunteer and social care service, D02. Community education service, D03. Public feedback mechanism, D04. Campus open space, D05. University social responsibility, D06. Alumni connection and interaction

### 2-4.3 Major topics Ranking and Boundary Analysis

After NUK identified the major topics disclosed in this report and recognized the actual scope of the collected and reported major topics, they were divided into within and without the university. The ones within belong to NUK itself, including students, faculty and staff; the ones without are parents and community residents, alumni, businesses and non-governmental organizations.

Major topics ranking, disclosure chapters and boundary analysis

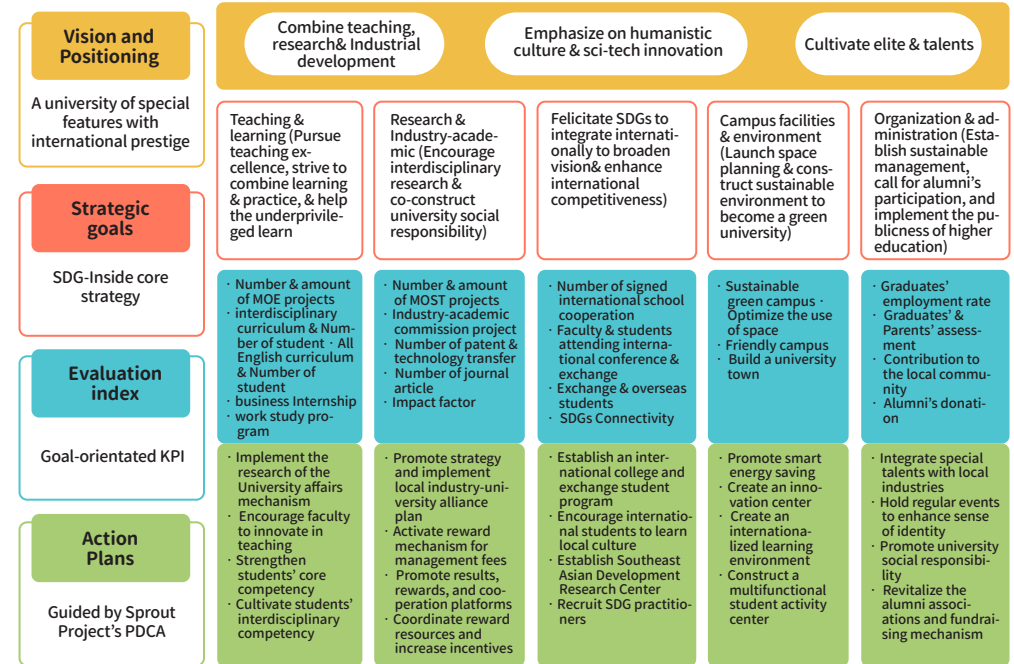
Aspect	Major topics	GRI Standard major topics/ NUK self-defined topics	Within NUK			Without NUK			Corresponding chapter
			Students	Faculty	Staff	Parents & Community residents	Alumni	Businesses	
Operation of University Affairs	A02 Financial control	201 Economic performance	●	●	●	●	○	●	1-3.1 Financial management
	A9. Labor occupational safety and health	403 Occupational Safety and Health 2018	○	●	●	○	○	●	4-4 Sustainable Campus Management
	A6. Protection of the rights and interests of faculty and staff	401 Labor relations 404 Training and education	○	●	●	○	○	●	2-3 Risk analysis
Academic and Student Affairs	B01 Teaching Quality	Appendix 2 NUK self-defined topics	●	●	○	●	○	●	3-1 Teaching quality
	B02 Quality and Quantity of Academic Research	Appendix 2 NUK self-defined topics	●	●	○	●	●	○	3-4 Quality and quantity of academic research
	B03. Learning Effectiveness	Appendix 2 NUK self-defined topics	●	○	○	●	●	○	3-6 Student learning effectiveness
	B08 Teaching software and hardware facilities	Appendix 2 NUK self-defined topics	●	●	●	●	○	○	3-2 Soft- and hardware facilities
	B10 Academic Ethics	102-16 Values, principles, standards and codes of conduct	○	●	○	○	○	○	3-5 Academic Ethics
Campus environment	C02 Energy Resource Management	303 water 306 Wastewater and waste 302 Energy	○	○	●	○	○	○	4-2.2 Water resources management 4-4 Energy saving strategy
	C04. Ecological protection and green beautification	Appendix 2 NUK self-defined topics	○	○	●	○	○	○	4-5 Campus Sustainability Management
	C05 Campus Safety	Appendix 2 NUK self-defined topics	●	●	●	●	○	●	4-6 Campus Safety
Social inclusion	D01. Volunteer and social care services	Appendix 2 NUK self-defined topics	○	●	●	●	○	○	5-1 Social Responsibility and Community Care
	D05. University Social Responsibility	Appendix 2 NUK self-defined topics	○	●	●	●	○	○	5-2 Improve the publicity of higher education



### 2-4.4 Development Strategy and Management Approach

The NUK University Affairs Development Plan introduced the idea of self-accountability Plan-Do-Check-Act (PDCA), and specifically comprised twenty Sprout Projects guided by the five strategic goals. In the aspects of teaching and learning, NUK took the five major mobilities of students as the basis for cultivating students' competitiveness, expanded learning freedom, and strengthened students' core competencies. In executing Sprout Projects, NUK set up IF School to encourage faculty to be innovative in teaching and actively participate in research. For research and industry-university cooperation, it promotes strategic alliances with local industry and government, emphasizes University Social Responsibility (USR) to combine the latest technology and bring AI technology to remote areas. NUK has used SDGs as a language to connect internationally and established the International College and exchange programs. In cooperation with its sister school National Philippine University, NUK founded Philippines Learning Commons, the first in the country and fulfilling its social responsibilities, not just domestically but also internationally. The campus facilities and environment are in constant improvement. NUK implements the ideas of green universities and provides students with a diverse learning space. In the aspects of organization and administration, through the improvement of laws and regulations, NUK actively promotes the publicness of higher education. While implementing higher education Sprout Projects, the ratio of economically/culturally underprivileged students compose 10.05% of the student body in NUK, much higher than the national university average.

#### NUK mid-range development plan 2018-2022



In line with the NUK vision to build a university of special features with international prestige, five strategic goals are set for each of the major topics in the previous section. The main objectives are summarized as follows:

Major topics and management approach

Description	NUK 5 developmental approaches				
	Teaching & learning	Research & Industry-University	Campus facility & environment	internationalization	Organization and administration
Major topics	201 Economic performance 102-16 Value, principle, standard & code of conduct Appendix 2 Self-defined topics	Appendix 2 Self-defined topics	302 energy 303 water 306 waste water and waste 305 emissions	Appendix 2 Self-defined topics	102 Strategy and Analysis 401 Employment Relationship 403 Occupational Safety and Health 404 Training and Education
Goals	Pursue teaching excellence & integrate learning and practice for the underprivileged students	Encourage interdisciplinary research and industry-university joint venture & jointly fulfil university social responsibility	Promote space planning, manage a sustainable environment, and practice a green university	Broaden horizons, enhance international competitiveness, and felicitate SDGs to integrate internationally	Establish sustainable operation, call for alumni's participation, and implement the publicness of higher education
Approach and promise	Launch curriculum reform, strengthen practical and integrated curriculum, encourage more innovative teaching, develop interdisciplinary integrated curriculum/programs, strengthen links of curriculum and industry, and effectively enhance students' employment competitiveness and English proficiency	Utilize the advantage of industrial zone in compliance with national development approaches, establish relations with neighboring industries through cooperation memorandums, industry-university plans, talent training, and exchange of technology, promote faculty's know-how, match industry cooperation, enhance the connection between faculty and industry and research capacity, and integrate NUK with national key industries	Maintain the reputation of "Green University", promote energy conservation, carbon reduction and the four-saving program, and continue to seek project budget subsidies from the government to facilities campus to be more environmentally friendly	Through specific strategies, such as increasing the number of exchange students and the number of international partners, effectively increase the NUK's popularity and internationalization	Improve the organizational structure, improve the welfare of faculty and staff, and increase the satisfaction of businesses with our graduates
Responsibility	1. Research and Development Office 2. Academic Affairs Office 3. Student Affairs Office 4. Extension Education Center	1. Research and Development Office 2. All colleges	1. General Affairs Office 2. Environmental Safety and Health Center	1. International Office	1. Student Affairs Office 2. Secretariat 3. Personnel Office
Action	1. Implement the research of the University affairs mechanism 2. Encourage faculty to innovate in teaching 3. Strengthen students' core competency 4. Cultivate students' interdisciplinary competency	1. Promote strategy and implement local industry-university alliance plan 2. Promote faculty multiple tracks of promotion 3. Develop and Implement reward policies 4. Coordinate reward resources and enhance incentives	1. Promote smart energy saving 2. Create a new source area 3. Create an internationalized learning environment 4. Construct a multifunctional student activity center	1. Establish an international college and exchange student program 2. Encourage international students to learn local culture 3. Establish Southeast Asian Development Research Center 4. Recruit SDG practitioners	1. Integrate special talents with local industries 2. Hold regular events to enhance sense of identity 3. Promote university social responsibility 4. Revitalize the alumni associations and fund-raising mechanism
Resource	Externally apply funding from MOE, MOST projects and industry-university cooperation; internally strengthen resource integration and organizational reform.				
Appeal channel	If the stakeholders find any suspected violations of ethics and integrity, they can report to the University through web pages, telephone and meetings.				
Management Evaluation Mechanism	1. The main responsible offices fill in the KPI achievement rate of the evaluation index, and review it monthly. 2. Action plans are reviewed bi-monthly.				
Evaluation results of management approach	3.1 Financial management 3.1 Teaching quality 3.2 Soft- and hardware facilities 3.5 Academic Ethics	3-4 Quality and Quantity of Academic Research 3-8 Operations of continuing and extension education	4-3.4 Carbon emissions 4-2.2 Water Resources Management 4-3.1 Energy saving measures 4-2.3 Waste Management 4-4 Sustainable Campus Management	3-7 International exchange and partnerships	2-3 Risk analysis 1-2.2 Human Resource Management 4-2.4 Laboratory Management
Adjustment of management approach	At the beginning of each year, the responsible offices fill in the Goal value for the next three years based on the achievement rate				



## 3

## 3-1 Teaching Quality

## 3-2 Teaching Software Facilities

## 3-3 Mechanism and Practice of Management and Review of the Faculty and Students

## 3-4 Quality and Quantity of Academic Research

## 3-5 Academic Ethics

## 3-6 Student Learning Achievement

## 3-7 International Exchange and International Partnership

## 3-8 Operations of continuing and extension education

## Chapter 3

## School Achievements

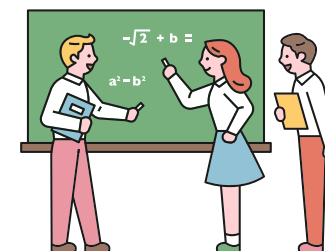
- 1 From 2019 to 2021, NUK obtained 654 industry-academic cooperation projects from MOST, government departments, non-government departments, and enterprises, with an amount exceeding NT\$700,000,000. The ideal location has provided plentiful opportunities for student internships. Every year more than 200 students partake in off-campus internships, which has enhanced their competitiveness in future employment and opportunities for industry-university cooperation. Signing agreements of academic exchange and strategic alliances with neighboring universities and colleges has established a cross-school R&D cooperation mechanism. In addition, NUK is active in international exchange. It has 339 international partners, 688 exchange students coming from abroad and 283 exchange students going overseas between 2017 and 2019.
- 2 Massive Open Online Courses (hereafter MOOCs) has created innovative online teaching materials and developed the curriculums of four special features. Since 2013, more than ten thousand students have taken the courses, which has effectively promoted flipped teaching and lifelong learning.
- 3 On the whole, 82.96% of NUK graduates matched their learning with their employment for the first three years after graduation. The employment rate three years after graduation is 78.08%, the satisfaction rate of corporate employers is 84.37%, and the amount of single corporate donation has been up to NT\$40,000,000, showing that the NUK achievements have been recognized by all sectors of the society.

## 3-1 Teaching Quality

## 3-1.1 Enhance Faculty's Competency and Provide Full Administrative Support

- 1 Organize faculty's competency enhancement workshops to improve faculty's learning competency: Assist faculty in teaching, research, service and other work and hold faculty mentoring activities. The topics include the promotion of academic affairs, the use of online teaching platforms and digital resources, the experience sharing of applying for the MOE projects, curriculum planning, publishing in academic journals, promotion and reviews, and the MOST project application.

- 1 The satisfaction rate with the NUK faculty's teaching quality has grown positively and steadily. The satisfaction rate with teaching evaluation reached 91.4%. For those who had inadequate performance, the teaching advisory committee has provided guidance up to 100%.



Quantitative indicators related to teaching survey

Item/ Semester & Year	Fall 2017	Spring 2017	Fall 2018	Spring 2018	Fall 2019	Spring 2019	Fall 2020	Spring 2020
Average	4.51	4.53	4.53	4.53	4.51	4.53	4.54	4.59
Satisfaction rate	90.2%	90.6%	90.6%	90.6%	90.2%	90.6%	90.8%	91.8%
Answer rate	84.3%	77%	85.4%	84.7%	83.1%	81.29%	84.4%	77.5%



## Quantitative indicators related to teaching survey

Item/ Year	No. courses with poor teaching evaluation	No. faculty with poor teaching evaluation (A)	No. counseling for faculty with poor evaluation (B)	Ratio counseling for faculty with poor evaluation (C=B/A)
2018	11	10	10	100%
2019	16	12	12	100%
2020	13	12	12	100%
Total	40	34	34	100%

- ② Reward faculty for teaching and research: Formulate the measures for "Outstanding Research Faculty Award", "Outstanding Industry-University Cooperation Award", "Outstanding Young Scholar Award", "Faculty Academic Writing Award", "New Faculty Subsidy", "Establishment for Chair Professorship" and "Establishment for Distinguished Professorship".

## Statistics of recruiting and rewarding outstanding talents inside and outside NUK

Item	2019	2020	2021	Total
Recruitment & retention of full-time (part-time) chair professor	1	1	0	2
Recruitment & retention of full-time (part-time) distinguished professor	8	7	6	21
Outstanding research faculty	3	2		7
Outstanding teaching faculty	3	3	2	8
Outstanding class advisor	3	3		9
Merited industry-university cooperation faculty	0	2		4
Outstanding young scholar	0	0		2
MOST Subsidies for College and Universities Research Award	21	26		73

- ③ Allocate tutors to improve teaching quality and provide learning guidance

## Statistics of the courses with tutors

Year	No. tutor	Tutor Grade Average (by student)	Satisfaction with tutor (by teacher)
Fall 2018	345	3.93	90.2%
Spring 2018	167	3.93	84.2%
Fall 2019	152	3.88	92.2%
Spring 2019	144	3.81	92.1%
Fall 2020	180	3.93	92.6%
Fall 2020	145	4.01	92.0%
Spring 2021	222	3.75	93.4%

## 3-1.2 Encourage Faculty to Integrate Innovative Teaching with Research

The proportion of faculty who participated in innovative teaching increased from 18.75% to 28.69% in 2017-2021. In 2018-2020, faculty applied for 70 teaching practice research projects, with an average pass rate of 52.73% in 2018-2021, and 3 of them were awarded for MOE's Point Projects.

- ① In order to encourage faculty to develop innovative digital teaching materials and try flipped teaching to enhance faculty's digital teaching competency and students' learning achievement, NUK has set up film studios, recording studios and purchased filming equipment and editing software to lower the threshold for faculty to record digital courses. As far as MOOCs are concerned, NUK has planned four major areas in accordance with the special features of each department and local development, including "Southeast Asian Language", "Kaohsiung Studies", "Globalization and Regional Development" and "Environmental CEO". Since 2013, 44 courses have been filmed (Table 3-2) and about 20,000 people have taken online courses, and the course completion rate is about 16%. In order to further promote MOOCs, NUK also signed memorandums of understanding with the central and local government agencies including Human Resources Development Center of the General Office of Personnel Administration of the Executive Yuan and the Personnel Bureau of Kaohsiung City Government to promote MOOCs on "e-Rank Civil Affairs Park", an online learning platform, to promote lifelong learning.



## NUK MOOC Digital Curriculum

Course Title	Instructor	First Offered	Times Offered	No. Participant	No. Completion
Taiwan History and Culture	Hong Sheng-fei & Yang Shu-hao	Spring 2013	8	1,270	5
Globalization and Multiculturalism	Hong Sheng-fei & Yang Shu-hao	Spring 2013	3	642	7
Globalization: Progress and Trends	Hong Sheng-pei	Spring 2014	7	1,380	19
Bilingual Teaching of Chinese and Vietnamese	Yuan-shi Mei-xiang	Fall 2014	2	321	2
Marine Ecology and Protection	Xie Yi-ting	Spring 2014	4	1,610	826
Food and Culture	Xie Zhong-zhi	Spring 2014	4	609	15
DIY and Personal Creative Merchandise	Wang Zheng-hong	Fall 2015	1	585	23
SOP for Environmental Engineering	Lian Xing-long	Spring 2015	4	356	2
Globalization and Southeast Asia	Hong Sheng-fei	Fall 2016	3	469	143
Kaohsiung Stories	Yang Shu-hao	Fall 2016	1	95	8
Beginning Vietnamese (1)	Chen-shi Lan	Fall 2017	10	2147	57
Beginning Vietnamese (2)	Chen-shi Lan	Fall 2017	8	1124	42
Intermediate Vietnamese (1)	Yuan-shi Mei-xiang	Spring 2015	1	266	16
Intermediate Vietnamese (2)	Yuan-shi Mei-xiang	Spring 2015	1	96	3
Intermediate Vietnamese (1)	Chen-shi Lan	Fall 2018	6	490	23
Intermediate Vietnamese (2)	Chen-shi Lan	Fall 2018	6	329	15
Advanced Vietnamese (1)	Chen-shi Lan	Spring 2019	4	209	0
Advanced Vietnamese (2)	Chen-shi Lan	Spring 2019	3	122	3
Tourism Vietnamese (1)	Chen-shi Lan	Spring 2015	2	126	45
Tourism Vietnamese (2)	Chen-shi Lan	Fall 2016	1	182	0
Beginning Thai (1)	Pan Wan-ling	Spring 2015	9	2,295	740
Beginning Thai (2)	Pan Wan-ling	Fall 2016	8	1,068	143
Intermediate Thai (1)	Pan Wan-ling	Fall 2017	6	522	142
Intermediate Thai (2)	Pan Wan-ling	Fall 2017	7	525	168
Advanced Thai (1)	Pan Wan-ling	Fall 2018	6	420	189
Advanced Thai (2)	Pan Wan-ling	Spring 2018	6	467	46
Tourism Thai (1)	Pan Wan-ling	Fall 2019	4	367	110
Tourism Thai (2)	Pan Wan-ling	Spring 2019	3	170	43
Beginning Indonesian (1)	Ni Hua-yuan	Spring 2018	6	821	45
Beginning Indonesian (2)	Ni Hua-yuan	Spring 2018	6	627	53
Intermediate Indonesian (1)	Ni Hua-yuan	Spring 2019	4	268	54
Intermediate Indonesian (2)	Ni Hua-yuan	Spring 2019	3	112	3

Course Title	Instructor	First Offered	Times Offered	No. Participant	No. Completion
Beginning Japanese (1)	Chen Zhi-wen	Fall 2020	1	958	58
Beginning Japanese (2)	Chen Zhi-wen	Spring 2020	1	497	67
Microcinema Production	Zheng Xiu-ying	Spring 2020	Under construction		
Vietnamese Pronunciation	Chen-shi Lan	Fall 2021	1	760	0
Business Vietnamese (1)	Yuan-shi Mei-xiang	Fall 2021	1	175	0
Thai Fun Easy Learn (1)	Pan Wan-ling	Fall 2021	1	207	16
Thai Fun Easy Learn (2)	Pan Wan-ling	Fall 2021	1	107	4
Thai Fun Easy Learn (3)	Pan Wan-ling	Fall 2021	1	98	3
Vietnamese Communication Skills	Chen-shi Lan	Spring 2021	Under construction		
Business Vietnamese (2)	Yuan-shi Mei-xiang	Spring 2021	Under construction		
Business Thai (1)	Pan Wan-ling	Spring 2021	Under construction		
Business Thai (2)	Pan Wan-ling	Spring 2021	Under construction		
Total			162	23,958	3,865



## 2 Implement MOE Bilingual Program

In 2021, NUK was granted by MOE' bilingual teaching program - popularization of school funding subsidy. On the basis of the previously English-taught courses, and formulation of relevant administrative measures in the existing mechanism, the University aimed to launch EMI (English as a Medium of Instruction) to improve students' English proficiency. It strives to use the resources in key courses and guide the faculty to join. This project will help the faculty effectively and methodically use EMI to improve teaching. Focusing on (1) bilingual learning, (2) practical use of English, (3) refined teaching and (4) international communication, it will strengthen learning objectives, construct the focus of curriculum, and pragmatically cultivate bilingual talents for usage in daily life and industrial needs.

## 3 Regulations and Measures for Revising Flexible Curriculum

- ① In 2021, NUK "Teaching Improvement Subsidy Measures" were revised to encourage the faculty to engage in innovative and effective teaching. Innovative curriculums including Multiple Credits, PBL Teaching, interdisciplinary teaching, and field study and practices are integrated with 13 faculty members' participation.
- ② Combined with MOE's "Strengthening Cooperation and Exchange Program with ASEAN and South Asian Countries", since 2010, different levels Southeast Asian languages have been taught and extended to different types, e. g. tourism and business languages. Learning step by step and the circular online teaching provide ample learning opportunities, and form a well-functioned learning map of Southeast Asian languages.
- ③ Promote problem-based learning (PBL), integrate technology with teaching, and interdisciplinary simultaneous teaching. In order to lower the threshold for faculty to record MOOCs teaching materials, the number of full-time faculty involved in producing digital teaching materials was doubled in 2017-2020, and the curriculums were expanded from languages to science and engineering. 16 faculty members participated and offered 30 courses, and developed 885 sets of teaching materials for students to learn on NUK audio-video platform.

## 1 Improve the mechanism of encouraging faculty to participate in the MOE teaching practice research projects

- ① Establish webpages for teaching practice research projects, set up a teaching practice research community at university level and with other schools, hold workshops regularly, advise faculty for drafting applications for projects, to promote exchanges and broaden the platform for conversations.
- ② "NUK Teaching Practice Research Subsidy Program 2019" was issued in 2019, and assigned 5 faculty members to implement small-scale research projects and successfully guided 3 faculty members to apply for the teaching practice research projects of 2020. Among them, 2 won the grants. The passing rate was as high as 66.6%. In 2020-2021, it also continued to support 9 faculty members to implement the teaching practice research subsidy program.

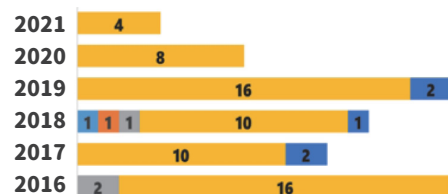
## 5 Support Faculty's professional development

- ① NUK set up the principles of teaching observation pilot projects in 2017. Since 2018, NUK has promoted Multiple Credit Courses, micro-credit courses, teaching innovation strategy courses, teaching practice research plans, and open observation courses for excellent teachers and excellent course teachers. The number of open courses has increased annually, and the number of open courses in 2021 reached 26. The total number of open courses from 2017 to 2021 was 107, and the participation rate of full-time faculty reached 27.0%.
- ② The internal activities of the faculty professional growth community have been made public. Since 2017, 63 activities have been made public, and the faculty has convened to form new communities for innovative teaching. In 2020-2021 the number of participating faculty reached 224.
- ③ Since multiple tracks for faculty promotion were established in 2016, 74 members have been promoted, among whom, 1 was promoted by his artworks, 1 by athletic achievements, 3 by technical skills, 5 by teaching achievements. These promotions were not based on academic publications and reached 13% of the total amount.



- ④ In 2018, "Executive Higher Education Sprout Project and Teaching Quality Improvement Project for the Selection of Excellent Teachers and Flexible Salary Payment Methods" was revised to change the flat awards established in 2015, allowing for merit-based awards to promote parity between investment and flexible salary among faculty. The composition of the selection committee was revised in 2020 to increase the number of faculty representatives who were awarded in the previous year. In 2021, the regulations were revised again, besides the addition of external members to the selection committee, a new voting measure was adopted.

Trend of multiple tracks for faculty promotion



■ Artwork  
 ■ Athletic achievement  
 ■ Technical Report  
 ■ Academic publication  
 ■ Teaching performance

Trend of course observation



■ Number of course observation  
 ■ Ratio of full-time faculty participation

### 3-2 NUK Software Facilities

The NUK Library collections include books (including books of Chinese and foreign languages), bound periodicals, electronic materials (including electronic databases, electronic journals, e-books), non-book materials (including audio-visual materials and map materials), current periodicals (including newspapers, Chinese and Western language periodicals).



Statistics of the Library collections

Category		Eastern Languages	Western Languages	Total
Books	Books	279,568	58,617	338,185
	Bound periodicals	17,479	12,990	30,469
Periodicals	Periodical Subscriptions	162	81	243
	Gift periodicals	317	11	328
	Newspaper Subscriptions	6	1	7
	Gift Newspapers	1	0	1
Non-book materials	Audio-visual materials	16,417	2,223	18,640
e-Resources	database	40	61	101
	e-books	290,023	188,246	478,269
	electronic periodicals	4,475	10,408	14,883

In addition to the general reading area and stack rooms, the NUK library provides different facilities to meet the readers' needs, including 1,038 seats for reading, Internet outlets and wireless networks. 6 seminar rooms (3 with projection equipment) are provided for faculty to conduct teaching and discussions with students. 24 cubicles, for graduate students to satisfy their research purposes. The audio-visual zone comprises audio-visual materials area, 48 individual listening-viewing seats, 12 seats in audio-visual area for showing, 24 seats in music listening area, 8 seats in database retrieval area, and a multifunctional audio-visual room and 2 audio-visual rooms for group activities, to provide readers with multimedia for teaching, research and learning.

As for the equipment of information technology: NUK provides complete networks, wireless networks, various information security protection equipment such as intrusion detection and firewall, flow control, email, computer teaching, servers, and information support environment. In the past three years, the availability of NUK network services has reached in excess of 99% per year, with less than 3 major information security incidents per quarter. The results have been exceedingly satisfactory.

### 3-3 Mechanism and Practice of Management and Review of the Faculty and Students

The mechanism and practice of management and review of teaching quality, students learning achievement and administrative policy:

#### 1 Faculty and teaching

- ① According to the regulations for promotion, teacher evaluation, teaching evaluation, and counseling, the three levels of Faculty Evaluation Committee conduct faculty's professional review, and the Academic Affairs Office and Teaching Development Center provide guidance for faculty's professional growth.
- ② Revise NUK "Implementation Measures for Teaching Consultation and Guidance" to improve those whose teaching performances do not reach 3.5 points in review of 2 or more subjects, and to help improve their teaching skills. In addition to Academic Affairs Office sending letters to the related faculty members and department chairs, the faculty members are required to demonstrate teaching in the micro classroom and video recording throughout the following semester. They are also required to take guidance and supervision.
- ③ In line with the all-English curriculum, NUK continues to refine teaching evaluation mechanisms, and adds the third part – the questionnaire of all-English courses – to provide feedback for faculty and subsidize all-English courses to optimize the quality of teaching.

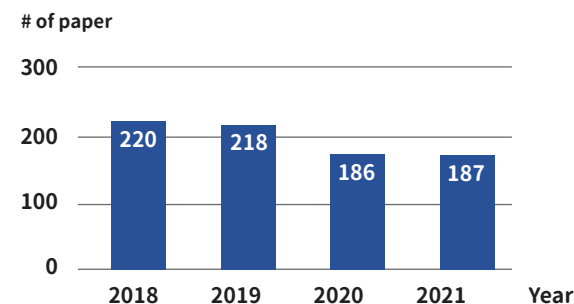
#### 2 Student learning

On June 14, 2016, the 4th NUK Academic Affairs Conference passed the "Learning Quality Assurance Implementation Measures", and designated the responsibility in different levels, including three major categories: quality assurance of student learning achievement, joint quality assurance of curriculum and learning, and joint quality assurance of teaching and professionalism. The Measures are focused on students' "learning achievement-oriented education", combined with NUK educational Goals and core competencies for curriculum planning and design, teaching implementation, learning evaluation, student learning achievement tracking, and faculty teaching improvement and development.

### 3-4 Quality and Quantity of Academic Research

- ① From 2019 to 2021, NUK faculty's publications were indexed in SCI, SSCI, A&HCI, and TSSCI and or published in other journals every year. By 2021, 2 members published 2 highly cited papers.
- ② NUK faculty implemented MOST projects, government agency subsidizing and commission projects, and industry-university cooperation projects in 2019-2021. A total of 654 projects were executed with an amount in excess of NT\$768,572,443.

Number of journal articles published by NUK faculty



Number and amount for MOST, Government, University-Industry cooperation projects

Year	MOST (incl. university-industry cooperation)		Govt & Commissioned		Non-Govt, Enterprise-Govt-Univ	
	No.	Amount (NT\$)	No.	Amount (NT\$)	No.	Amount (NT\$)
2019	101	101,026,396	77	120,650,041	49	19,440,513
2020	100	95,366,595	68	126,895,907	49	25,654,873
2021	91	87,870,688	64	166,818,385	55	24,849,045
Total	292	284,263,679	209	414,364,333	153	69,944,431



- 3 The results of patent applications and technology transfers have grown steadily. The average number of patent applications from 2019 to 2021 is 17 annually, and technology transfers is 4. The average amount of non-exclusive authorized technology transfers is about NT\$270,000. In 2021 one exclusive authorized technical transfer amounts to NT\$1,750,000.

### 3-5 Academic Ethics

The NUK full-time personnel includes teaching faculty, civil servants, technicians and workers, and staff employed by the university funds. Faculty who concurrently holds administrative positions, civil servants, technicians, workers and staff hired by the university funds are in accordance with various service regulations on the appointment.

Since December 1, 2017, in addition to abiding by Teachers' Law, NUK formulated "Regulations Governing the Implementation of Academic Research Ethics" in order to enable our researchers to understand the relevant code of academic ethics and establish the related mechanisms applicable to those who apply for MOST projects for the first time. The administrator of the MOST projects and the participating researchers for the first implementation should complete at least six hours of academic ethics training three years prior to the application. The first-time participating researchers who are hired to implement the MOST project after the start of the project should complete six hours of related academic ethics training within three months from the date of employment.

In response to MOE's "Principles for Handling Academic Ethics Cases in Colleges and above", MOST's "Key Points for Handling and Deliberation of Academic Ethics Cases" and "NUK Regulations for Handling Violations of Academic Ethics", NUK has formulated "Key Points for Handling Academic Ethics Cases for Program Researchers" in order to establish an objective and fair process for handling cases which violate academic ethics by NUK project researchers and establish an academic self-discipline mechanism.



#### List of laws and regulations for individuals to abide by

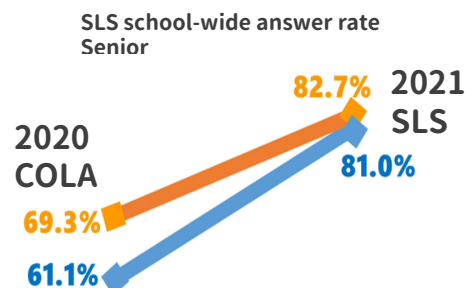
Position	law & regulations
Teacher	"Teacher Law", "Principles for Handling Part-time employment of Full-time Teachers in Public Schools at All Levels", "Principles for Handling Academic Ethics Cases in Colleges and Above", "Key Points for Handling and Deliberation of Academic Ethics Cases", "NUK Regulations for Handling Violations of Academic Ethics", "Key Points for Handling Academic Ethics Cases for Project Researchers"
· Faculty with administrative position · Civil servants · Technicians and workers	"Civil Servants Disciplinary Law", "Civil Servant Service Law", "Civil Servants Administrative Neutrality Law", "Civil Servants Conflict of Interest Avoidance Law", "Civil Servants Property Declaration Law", "Civil Servants Service Code", "Civil Servants' Integrity and Ethics Regulations", "Anti-Corruption Act"
Staff hired by the university funds	"NUK Hiring Policy for Administrative Assistant", "NUK Personnel Recruitment and Management Measures", "NUK Working Regulations for University-hired staff"

### 3-6 Student Learning Achievement

#### 3-6.1 The establishment of big data-oriented approach in feedback and learning structure

- 1 Improve the quality and quantity of data for learning and adaptation assessment, and ensure the validity of learning and diagnostic data analysis
  - ① In 2021, the streamlined NUK "Student Learning Survey (SLS)" was implemented, aptitude, accessing four categories: prospect, situations and needs, teaching feedbacks, achievements and future plans. The average answer rate of the whole school increased was 79.9%, higher than the COLA Questionnaire; the answer rates of junior and senior students are higher, in respect 81% and 82.7%.

## SLA answer rates: Juniors &amp; Seniors



- ② In 2021, the answer rate of UCAN occupational interest diagnosis was 61.5%. In the fields of "Occupational Competency", the average rates for juniors and seniors were 42.87%.
  - ③ Establish an E-Portfolio management system combined with SDGs to allow every department to record students' participation in on- and off-campus activities, and automatically generate learning profile.
  - ④ Enhance the diversity of admissions courses and continue to offer "University Introduction" courses. From 2018 on, course modules have been moved from departments to colleges, covering emotional education, career development, and sustainability, integrating each college's characteristics to establish students' awareness of interdisciplinary learning. Freshmen's satisfaction rate increased from 75.32% in 2017 to 85.53% in 2020; nonetheless, it dropped slightly to 76.13% in 2021.
  - ⑤ The analyses of pre-warning and improvement data of 2017-2019 show the improvement rate increased from 89.92% to 91.67%.
- ② Interdisciplinary learning environment to import data-oriented decision-making value-added university quality assurance system
    - ① Relax the restriction on the credits for graduation taken by non-departmental students. The General Education Center offered the policy for students' intercollegiate electives to be counted as general education credits in 2017 with the upper limit of 6 credits to expand learning flexibility. In 2017- fall 2020, the day school students' inter-departmental course selection rate in the first semester increased from 26.9% to 52.23%.

- ② In the analysis of the learning performance of the day school transfer students in 2016-2019, the students of Humanities and Social Sciences, Law, and Management Colleges stood 47% of transfer student population, but had lower drop out ratio. 0% of the transferred students from Humanities and Social Sciences, Law, and Management Colleges to Science, and Engineering Colleges dropped out. On the other hand, 22.22% of those whom transferred from Science, and Engineering Colleges to Humanities and Social Sciences, Law, and Management Colleges did so. As to transferring within the college, the students in Management College topped 27.27% on the ratio.

## Statistics of graduated &amp; drop out transfer students

Year	2019	2020	2021
No. transfer	63	70	61
No. graduated	11	0	0
Ratio graduated	--	--	--
No. leave of absence	3	1	1
No. drop out	6	6	3

Note: 6 transfer students from 2018 continue school; 43 from 2019; 63 from 2020; 57 from 2021.

## 3-6.2 Strengthen Basic Core and General Competency

- ① Annual teacher evaluation and teaching workshops are held. All courses are required to plan syllabus according to the "Student Learning Achievement-Based Assessment Model" and to receive comprehensive review externally. Beginning in 2017, teaching faculty is encouraged to observe classes. By 2021, 26 courses had been offered for observations.
- ② Continue to promote multilingual, multicultural and action learning.
  - ① Continue to promote social engagement courses, including media literacy and citizen engagement, service learning, and community field study.



Social engagement course &amp; No. students

Year	2018		2019		2020		2021
Semester	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021
No. course	5	6	6	5	6	5	4
No. students	144	157	231	138	221	169	165

Notes:

1. In spring 2017, Sprout Projects initiated, social engagement module only offered "Service Learning".
2. Since 2019, in line with the NUK policy, the number of students in service learning has increased from 30 to 40.

- 2 Enrich multilingual and multicultural courses: in addition to the original Japanese and French language and culture courses, Vietnamese, indigenous languages and culture, and Indonesian were set up in 2017-2020, totaling 5 languages and cultures.

No. of Multilingual and multicultural courses &amp; students

Year	2018		2019		2020		2021
Semester	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021
No. course	2	3	4	8	9	9	8
No. students	90	128	137	197	265	265	195

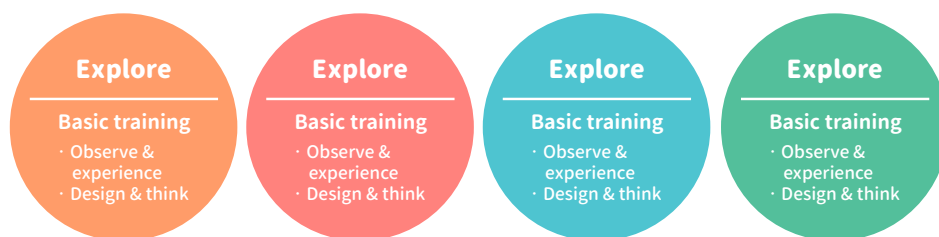
- 3 Reinforce the positive learning cycle of Chinese reading and writing: 85% of the students have acquired the 4th level of core competency in every Chinese writing test. 90% of the test takers reached level 4 of writing competency in 2017-2021. In order to maintain learning efficacy, the cost of compiling teaching materials was increased, and the teachers would revise the content according to the test result in 2021.
- 4 Through formal courses and potential courses, train students to demonstrate the soft power in communicating in English.

- 1 Regular standardized tests are used to check the effectiveness of students' English learning. In 2020, more than 55% of the freshman students reached CEFR B1 level. Due to the Covid pandemic, NUK adopted online teaching in May 2021, the test was postponed to November and was not compulsory. As a result, the pass rate fell to 47.7%.
- 2 In 2021, English taught courses were offered continuously to enhance students' communicative skills in their chosen field.
- 5 To launch program design courses included in the graduation threshold to ensure effective learning.
  - 1 The proportion of student enrollment in programming courses in NUK was 64.70% in 2021, of which 67.12% were 2,477 non-information technology majors.
  - 2 In fall 2020, the school-wide "Information Basic Competency Graduation Test" was included in the "Programming Design and Computational Thinking" assessment. In 2021, five topics: Python, R, C/C++, Java, and Java script were integrated with SDGs. The pass rate for each college was: Science 86.60%, Engineering 72.70%, Law 71.33%, Management 71.05%, and Humanities 55.09%; for information technology students, 82.42% and non-information technology 56.29%.
  - 3 From 2021 on, 15 courses on program design were offered, among which 3 were integrated with professional learning, with 478 participants. The students attended "Smart Sensing Network Innovation Application Competition 2021 - Machine Learning Group" and "Fintech and Humanistic Wisdom Group", and 3 teams were awarded Honorable Mention.

### 3-6.3 Establish IF School

- 5 The number of innovation and entrepreneurship courses is in excess of two folds.
  - 1 The course content covers innovation and entrepreneurship, emerging technology, and narrative courses. In 2020, "The Elevator Briefing Contest" was held to discuss sustainable topics such as campus environmental protection, marine ecological conservation, and housing justice. 20 contestants joined the contest.
  - 2 392 courses were offered in 2018-2021, and 3,308 people continued taking the courses. In an analysis of student majors from 2018 to 2021, the proportion of students from Humanities and Management Colleges was relatively high, accounting for an average of 29-30% each year.

Table 3-10 Social engagement course &amp; No. students



University · Community · Entrepreneur · International

The ratio of IF School courses taken by each college

Year	Humanities	Engineering	Science	Management	Law
2019	34.3%	19.5%	19.9%	20.9%	5.2%
2020	29.0%	20.3%	15.3%	30.5%	4.9%
2021	31.9%	21.2%	12.8%	31.4%	2.7%

- 2 Improve the subsidy and tracking mechanism for innovation and entrepreneurship competitions, with 8 companies continuing operations.

- ① In 2021, one team participated in the U-start Innovation and Entrepreneurship Competition and won a start-up award of NT\$500,000 at two stages respectively. Alumni were involved in the process, further expanding the resource for innovation and entrepreneurship.

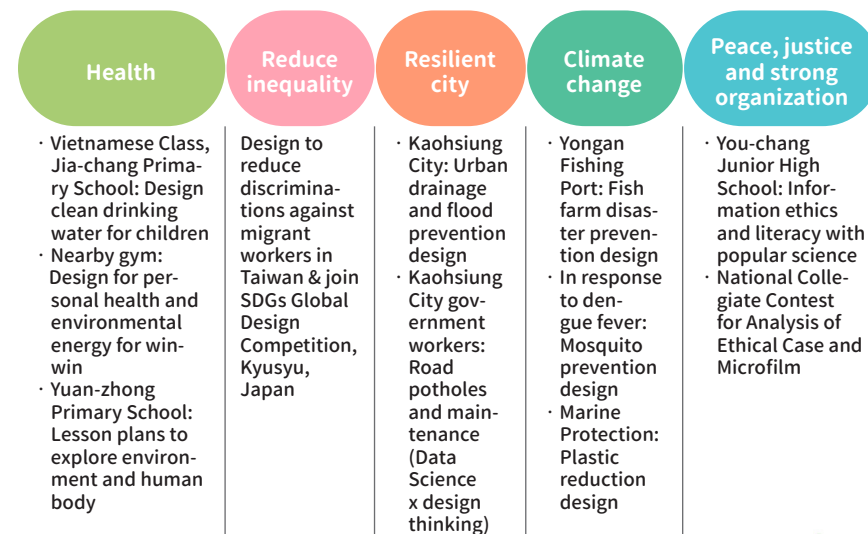
No. of innovation and entrepreneurship team

Year	No. Subsidized team for competition, IF School	No. Team for U-start competition, Incubation Center		
		Teams applied	Time Awarded	Subsidy Amount
2019	11	3	2	1,400,000
2020	13	1	1	750,000
2021	10	1	1	500,000

- ② From 2013 to the present, under the guidance, 16 entrepreneurial teams have applied, of which 8 passed the first stage of review, 5, the second stage, were awarded with the honor of “Blue-Chip Team” and startup bonuses. The students mainly come from the Departments of Applied Materials and of Creative Design. The company's operations are diversified, including development of information systems, metal surface treatment, wood and cultural and creative design.

- ③ NUK organized an interdisciplinary curriculum to create innovative courses. 56 faculty members from 18 departments in 6 colleges started classes, and created IF School as an interdisciplinary teaching base. It cooperates with Kaohsiung City Government, Gang-zai-men Workshop, Chi-kan Community, Yongan Fishing Port, and Yongan Primary Schools. They discussed and investigated the issues of potholes on the road caused by summer floods, their repairs, urban drainage systems, community disaster prevention, exhaustion of marine environmental resources and preservation of local culture. NUK also carried out innovative design, developed “design for sustainability” curriculum and encouraged students to participate in energy-saving and innovative information contests.

Design thinking promotes the sustainable features





### 3-6.4 Establish AI Center to Cultivate AI Talents

- ① In 2018, NUK integrated 6 departments and 18 teachers to establish an AI research center to coordinate and promote the cultivation of AI talents, and design courses in the fields of design data science, financial technology, and machine learning. Up to 2021, 71 students obtained the certificates, of whom 9 in data science are in the service of well-known domestic technology companies including ASE, Innolux, Wistron, Puhong Information, and NXP Taiwan. It demonstrates that the course content helps students serve in related industries after graduation.
- ② As of 2021, 119 students published more than 90 academic reports in conferences on statistics, digital life technology, ICSEVEN, and IEEE journals, and 246 people have participated in AI-related competitions.
- ③ As of the end of 2021, 23 students passed "Big Data Analyst – Elementary Competency Assessment" in "Industry Professional Assessment System of the Ministry of Economic Affairs".
- ④ The program signed internship contracts with Puhong Information, Wistron, Forbes, ASE, and NXP, and 51 students completed corporate internships in 2019-2021.
- ⑤ The 30th South Taiwan Statistics Conference & 2021 Chinese Institute of Probability and Statistics Annual Meeting was held. More than 120 papers on 19 topics were published.

### 3-6.5 Establish the Only AVR+ School in Taiwan

- ① In Fall 2019, NUK established AVR+ School with TXI Partners, an AVR platform, to start a joint enterprise certification AVR module, and systematically cultivate AVR talents. With outstanding results in domestic and international competitions, NUK has won awards 100% of the time.

- ① International competition: In 2021 NUK participated in the 11th Virtual Design World Cup on the theme of Phuket Smart Resort - Sustainable Development Design. 7 groups in the Asian region were shortlisted for the finals, and all 3 groups of NUK participating students won the championship, the runner-up and the special judge's award. From 2016 to 2021, NUK won 3 champions, 6 runners-up, and 9 special judge's awards.
- ② Domestic competition: In 2021, NUK participated in Intelligent Living Space Design Competition held by the Architecture and Building Research Institute, Ministry of the Interior, by image projection and interactive technology to revitalize the wall of KW2 of Kaohsiung Port Depot, and won the judge's award for the Creative Imagination Group.

### 3-6.6 Cultivate Highly Professional Talents in Legal Japanese

- ① Since 2009, the faculty in the College of Law has offered a one-year intensive training module in Japanese law outside the regular curriculum every year. 15-20 students are enrolled each term, and a total of 120 students have gone through training for the past 10 terms. Through two-way relocation training programs, students strengthen their speaking and debate skills. Our partner schools include Nagoya University, Hokkaido University, Sapporo Gakuin University, and Okayama University.
- ② NUK regularly has been tracking the performance of the trainees every two years since 2018. The pass rate of N2 or above in Japanese Language Proficiency Test is 66.7%. The average full-time monthly salary of the trainees after graduation is NT\$60,000 which is NT\$15,000 higher than the average monthly salary of lawyers in general employment of about NT\$40,000 to NT\$45,000.
- ③ International course exchanges:
  - ① Affected by the Covid19 pandemic, the schedule for overseas exchanges was moved to summer vacation. International students from Japan, the US, Thailand and China held meetings to discuss Sapporo, Hokkaido, university life, Japan's new and old culture and social issues. The meetings were conducted in Japanese. 3 NUK- Sapporo Gakuin University (SGU) Student Exchange Conferences were held with the students from NUK's 9th and 10th Special Japanese Training Module, and from SGU attending and focused on the discussions of the Covid pandemic, tourist sites in Taiwan and Japan, food and gifts. These activities aimed to strengthen NUK students' Japanese listening and speaking proficiency.

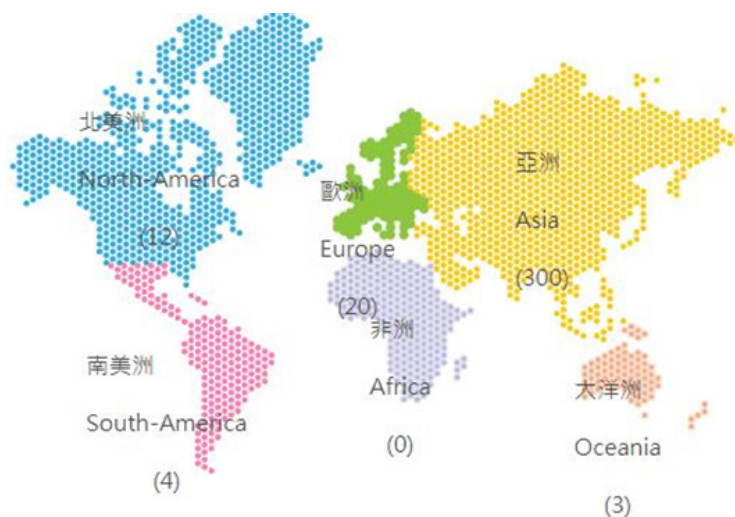
- ② In cooperation with Law Department of Okayama University, Japan, NUK held Taiwan-Japan Law Research Exchange Conference. NUK students present issues on law research and current events to assess the learning results and deepen bilateral exchange.
- ④ Outstanding results of Japanese language proficiency test: The 8th and 9th members of the Japanese Law Special Training Module jointly applied for the N2 Japanese Test, but the students were unable to go abroad during the pandemic, and lacked speaking and listening experience. Most students chose to take the N3 test, and 80% of them passed.

### 3-7 International Exchange and International Partnership

- ① Cooperation with international industry  
NUK and the international industries have signed a total of 3 center-level industry-university cooperation memorandums, namely Joint Pier Incubator of Pukou District Youth Innovation Park, Nanjing, Marine Science and Technology Entrepreneurship Center, Shanghai and Global View Technology Incubator, Beijing, China. NUK's Advanced Management Talent Cultivation Center (EMBA Center) has established an international advanced business management in-service program (IEMBA) in Vietnam, Thailand, and Haixi, Shanghai, China. The recruitment is targeted at the senior executives of the Taiwanese business people or incoming senior executives of Taiwanese enterprises. NUK, one of the founding members and a current member of the Council of Taiwan Chambers of Commerce in Vietnam, actively participates in its activities. By 2016, NUK had visited a total of 30 overseas institutions for internships in order to expand the opportunities for our students to participate in international exchanges and cooperation activities and cultivate professionalism with global vision and practical experience. Through the matching of NUK's Industry Collaboration and Incubation Center, 2 cases of industry-academic cooperation between our faculty and Vietnamese enterprises were initiated in 2018 to enhance NUK's international reputation and prestige.
- ② Cooperation with international government agencies
  - ① Since 2013, NUK has assisted Korean Mission in Taipei in handling the Korean language proficiency test a total of 4 times.
  - ② NUK has joined the Vietnam Economic and Cultural Office in Taipei as the certification authority for the joint certification program of "Taiwan-Vietnam Exchange Program for Legal and Business Elite Talents".
- ③ Cooperation with international academic communities  
NUK currently has 339 international partners, including 300 in Asia, 20 in Europe, 12 in North America, 4 in South America and 3 in Oceania. Cooperation projects include exchange students, exchange faculty, and dual degree programs. Due to the Covid19 pandemic, in 2020, NUK established a virtual college with Bicol University, Philippines, Tanjungpura University, Indonesia and Thai Nguyen University of Agriculture and Forestry, Vietnam and Rajarambapu Institute of Technology, India to establish a platform for scholarly exchange and enable students from different countries to learn from series of lectures. Through Cross-Strait University Alliance Forum, South Taiwan University International Exchange Strategy Alliance (ST9) and Mainland Outstanding University Alliance (E9) agreed to hold the forum annually in the member schools of the two alliances. Through the Kaohsiung Southeast Asian Education Exchange Association and National University of Philippines (NUOP) system, NUK and 8 branches of NUOP signed academic exchange and cooperation agreements, and established a Taiwan-Philippines academic exchange platform to promote new scholastic development between NUK and Philippines. Since 2013, NUK has cooperated with National University of Hanoi, Vietnam to become the first school in the country to handle Vietnamese language proficiency tests. Since 2016, in line with the government's New Southbound Policy, it has also cooperated with Chulalongkorn University in Thailand to become the only university in the country that handles the Thai language proficiency tests. It has signed a dual master's degree program with Rangsit University in Thailand, and selected outstanding students to visit and be trained in overseas Taiwanese companies and factories in Thailand and Vietnam. It also set up IEMBA programs in Vietnam and Thailand, and 5 overseas special programs; it assisted Indonesian scholars to improve their research capabilities, hoping to become a Southeast Asian talent training center in Taiwan and Southeast Asian Taiwanese think tank for businesses. In November 2018, NUOP and NUK formed a teaching alliance to establish Philippines Learning Commons at NUK to promote Taiwanese culture and enhance Taiwan's international image among transnational migrant workers.



Fig 3-7 Map of international partners



Status of exchange and cooperation with international partners

Item	Exchange activity	Result
1	No. schools newly signed <sup>1</sup>	40
2	No. exchange between NUK and international partners	46
3	Visits from international partners in the past 3 years	33
4	Visits to international partners in the past 3 years	12
5	No. incoming exchange students in the past 3 years	146
6	No. outgoing exchange students within past 3 years	216
7	No. joint conferences with international partners	3
8	No. incoming exchange and visiting scholars	0 <sup>2</sup>
9	No. other cooperation	17

Note: 1. The statistics of 2019-2021

2. Due to the pandemic, the exchange was temporarily withheld.

- 4 Encourage students to go overseas for exchange and join corporate internships in order to broaden international perspective.

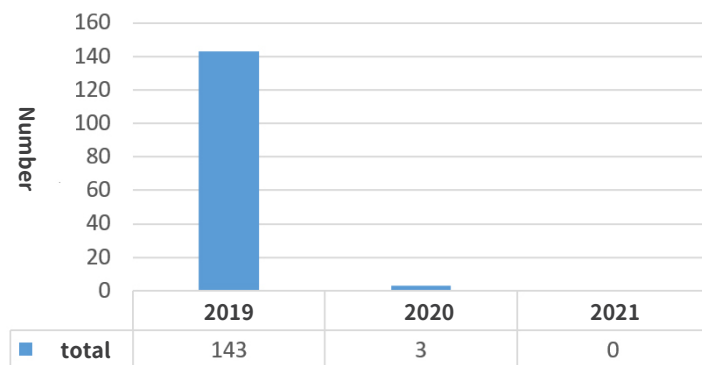
NUK handles exchanges of students to foreign international partners and corporate internships annually. Through transnational movement, the students learn professional knowledge in different cultures and improve foreign language proficiency and employment competitiveness

- ① The number of students going abroad for short-term training has slightly declined due to the pandemic: NUK has implemented programs for students to study abroad since 2009. The number of overseas exchange students has decreased slightly in the past three years. In 2020, 20 exchange students went abroad. In addition to continuing to provide scholarships to encourage more outstanding students to go abroad, and expanding pre-departure training and guidance workshops, NUK invites overseas study (exchange) students to share their experiences, invites foreign universities to NUK to explain dual degree programs, encourages student participation and provides them with more options for studying.
- ② Internships abroad: encourage students to go to Japan, South Korea and Vietnam and other countries for internships. From 2007 to 2021, NUK students were awarded with various MOE's international exchange programs and with funding totaling NT\$31,236,110, of which subsidies were amounted to NT\$1,615,000 in 2021.
- ③ Every year, NUK provides annual financial support for faculty and students to go abroad to participate in international conferences, and awards for outstanding teaching departments in international exchanges, and grants subsidies to faculty and students and department funds to enhance their participation in international activities. The International Angel Project has been launched in Sprout Projects in hope that faculty and students will jointly participate to enhance students' willingness to go abroad and deepen the quality of overseas study.

- 5 The number of foreign exchange students has grown steadily in recent years. NUK has successfully attracted international students:

In order to expand the enrollment of foreign exchange students, NUK actively promotes itself overseas, and establishes sister school partnerships abroad to increase the number of foreign students. The number of exchange students grew steadily before 2018. However, since 2016, due to the influences of cross-strait relations and policy, the number of Chinese exchange students coming to Taiwan has been shrinking. Furthermore, due to the Covid19 pandemic, the government restricts the short-term study of foreign students, and it has also affected the number of foreign exchange students coming to NUK. Nonetheless, NUK has actively approached the sister universities in other Asian countries, Europe and the United States to hold virtual forums and online learning through the internet. With solid preparations, NUK will engage in active overall exchange with them after the pandemic is over.

Statistics of overseas students



### 3-8 Operations of continuing and extension education

#### 1 Academia-industry collaboration with local enterprises

NUK has close cooperative relations with local enterprises. The University-level cooperation memorandums signed with the industry have accumulated to 21. On the basis of the memorandum of cooperation, NUK cooperates with the industry to conduct joint certification programs, student off-campus internships, industry-university cooperation projects, sets up industrial-academia master's programs, and invites specialists to visit and give lectures in NUK. The cooperative organizations include: ASE Semiconductor Manufacturing, Lite-On Technology, Kaohsiung Youth Entrepreneurship Association, Taiwan NXP Semiconductors, Industrial Technology Research Institute, AirAsia, Taiwan Plastic Industry, Refining Division, CPC Taiwan, Advanced Wireless Semiconductor, Institute for Information Industry, and Yieh United Steel. Taiwan Environment Scientific and Porite Taiwan have long-term industry-university cooperation with NUK, setting up exclusive lecture series in the College of Engineering, providing equipment and coordinating lectures; Enrestec and Futeng Technology participate in the talent cultivation project drawn by Industry Collaboration and Incubation Center and jointly cultivate the talents needed by the enterprise.

Founding Industry-University Research Center with ASE





## 2 Cooperation with the local government

NUK has signed a total of 5 memorandums of cooperation with government agencies, including the university-level industry-university cooperation memorandum (including center level), such as Export Processing Zone Management Office of MEA, and Benjou Industrial Park Service Center in Kaohsiung Economic Development Bureau, firstly to assist matching the industry-university cooperation and student internships with the park industries and secondly to invite them to serve as outside members of NUK industry-academia related conferences. NUK also signed "Disaster Prevention Technology Research and Application Cooperation Memorandum" with the National Science and Technology Center for Disaster Reduction, and a memorandum for continuing education with Kaohsiung Management Office, Irrigation Agency, Council of Agriculture, Executive Yuan. Other cooperation memorandums were signed on college level, including with Kaohsiung District Court for them to offer courses such as "Court Practice" and "Prosecution Practice", and for NUK students' summer internships at the Court.

Founding "Community Internet Managers" Program with Youth Bureau, Kaohsiung City



In addition, NUK cooperates with the Workforce Development Agency, Kaohsiung-Pingtung- Penghu-Taitung Regional Branch, MOL and Council of Indigenous Peoples to assist in vocational training of unemployed persons, industrial talent investment programs, small business manpower improvement projects, and pilot projects to cultivate professional talents. A total of 16 workshops were held in 2021.

## 3 Academic exchange

NUK has signed strategic alliances (or academic exchanges) agreements with 10 colleges and universities, through inter-school alliances, to jointly promote inter-school cooperation. For example, it cooperates with National Sun Yat-sen University for participation in industry-university matching activities; allowing day school students to select inter-university courses based on the principle of reciprocity and free of credit fees; signing memorandums of cooperation with two university incubation offices; signing exchange student cooperation agreements with 5 colleges and universities to share educational resources, and diversifying students' learning opportunity; joining 5 academic regional alliances: NUKST Kaohsiung Learning Region, KTP Regional Resource Center for Teaching and Learning, International Exchange Strategy Alliance of South Taiwan University ST9, Edu-Connect Southeast Asia Association, and National University System of Taiwan in order to integrate university resources to help promote higher education and further advance the development of local industries.

Holding "Bilingual Young Athletes Training Camp" with Education Bureau, Kaohsiung City





## 4

- 4-1 SDGs Curriculum and Research
- 4-2 Organizations and Regulations Related to Campus Environment
- 4-3 Environmental Status and Management
- 4-4 Energy saving strategy
- 4-5 Sustainable Campus Management
- 4-6 Campus Safety
- 4-7 Environmental Education

## Chapter 4

## National University of Kaohsiung SDGs



**Manage  
environment**



**Research**



**Educate**



**External  
implementation**

In combination with Sprout Projects, NUK endeavors in the four fields of research, education, organization and external implementation to help society, enterprises, and the world understand the future challenges, overcome complex socioeconomic and environmental challenges, and promote sustainable social development. Our mission is to fulfill the SDGs' commitment to social care, economic fairness, and environmental sustainability.

**(1) Organize environment: integrate SDGs into university organizations and operations; change school culture and its surrounding areas**

- SDGs are integrated into NUK's mid- and long-term plans.
- Entrust the Sustainability Development Committee for promoting the sustainable culture on campus and gradually realizing the ideal of a green university.
- Link to the Yunus Social Enterprise Academic Research Center established in December 2017 to help students think about their roles and responsibilities in the world and become responsible global citizens.

**(2) Research: assist the society in perceiving localized SDGs topics and developing solutions.**

- Promote faculty to engage in research on SDGs.
- Cooperate with enterprises and other institutions and hold conferences on topics of sustainable development.

**(3) Education: fostering sustainable citizens**

- Cooperate with non-profit organizations in workshops to improve faculty-staff's understanding of SDGs topics.
- Encourage faculty to offer SDGs professional courses and integrate into existing courses and course content
- Promote the wholesome development plan of global citizenship and encourage students to cooperate with international partners to discuss SDGs and to become sustainable citizens.
- Promote all-round assistance programs for underprivileged students to ensure equal opportunities for education from enrollment to graduation, and achieve fairness and justice.

**(4) External implementation: link external units to expand local and international cross-domain dialogue**

- Support faculty to combine their courses with sustainable development of local communities and lead students to practice in the community.
- Take the leadership and integrate to match communities, non-profit organizations, social enterprises and other institutions and organizations to jointly implement SDGs.



## 4-1 SDGs Curriculum and Research

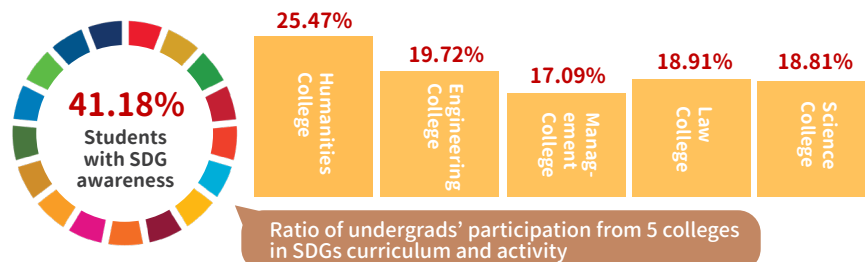
### 4-1.1 Use Sustainable Topics as Media to Connect Faculty as Community and Offer Interdisciplinary Classes

- ① Offer innovative thinking courses, develop innovative thinking pedagogy, encourage faculty cooperation in different disciplines with sustainable topics, and develop interdisciplinary teaching. NUK consolidates the UK "Sustainable Development Goal Curriculum Guidelines" in the curriculum for faculty to plan their courses.
- ② Connect the government and non-profit organizations with IF School to cultivate students' competency to design proposals for practical topics.
  - ① Cooperate with the Kaohsiung City Government to investigate summer flooding and road maintenance and repair what Kaohsiung residents must frequently confront, and propose innovative solutions.
  - ② Cooperate with Taiwan Institute of Sustainable Energy to hold CSR university lectures, offer sustainability elite training courses, and co-found a sustainable future workshop, with 263 participants from industry, government and academia.
  - ③ Combine industrial resources for instructors in innovative thinking-related courses and micro-credits of SDGs social enterprise to expand future cooperation with enterprises in different fields. In 2019, offering local sustainability practical courses, NUK cooperated with NPO Channel, a charity fundraising platform, and Baoshan Community Development Association to assist charity groups selling products online, and also revitalized the local tea industry by fixing the abandoned school buildings of Baoshan Primary School. NUK also cooperates with social enterprises such as Taiwan Yunus Foundation, the Big Issue Taiwan, OKOGreen, OurCityLove and Impact Hub Taipei. NUK has been promoting sustainable citizenship by holding 43 events with a total of 2,462 people participating. In 2020, IYSL workshops, SDGs English lesson plan workshops, and Prof. Gao Youling's mobile courses were held on campus. Off-campus activities included SDGs exchange with International Class of Xinzhuang Senior High School, visits to sustainable cities and Taiwan Climate Action Expo, and organizing SDGs x Seeds of Hope and Action and SDGs Board Game Workshop with external organizations.

### 4-1.2 University SDGs Impact Evaluation and Value-added Features of NUK as Green University

- ① Integrate SDGs into NUK campus and obtain domestic and international recognition
  - ① Compiled the NUK Sustainability Report 2018 in accordance with the GRI Standards guidelines published in 2016, certified by the impartial third-party British Standards Institute, and won Gold Label in Sustainability Report category for Enterprise Sustainability Award by Taiwan Institute for Sustainable Energy 2019 and National Sustainable Development Award of the Executive Yuan. In 2021, it won the Gold Award of 2020TCSA Corporate Sustainability Reports in the university category.
  - ② Participate in 2021 Taiwan Climate Action Expo to exhibit SDGs achievements and receive the honor of the Best Academic and Research Action Award.
- ② SDGs are substantially integrated into existing courses and activities with 33.6% of integration in 2019, 48.31% in 2020 and 41.18% in 2021. There is a substantial increase.
  - ① In 2018-2021, an average of 254 sustainability-related courses were offered annually, with 9,169 students attending.
  - ② In 2018-2021, NUK was engaged in 505 research projects, and published 252 journal articles with SSCI index related to SDGs.
  - ③ In 2021, 41.18% students participated in existing courses and activities of SDGs, with growth of 7.58% compared to 2019.
  - ④ In the analyses of the percentage of university students participating in SDGs courses and activities in the five colleges shown in 2018, Colleges of Humanities and Social Sciences was the highest at 27.76%, and the other colleges were at 7%-23%. In 2019, College of Management accounted for the highest percentage of 29.4% and the other colleges were at 11%-25%. In 2020, Colleges of Humanities and Social Sciences were the highest at 28.78%, and the other colleges were at 13%-19%. On the whole, compared with the previous two years, the proportion of undergraduate students from different colleges participating in SDGs courses and activities has an above average trend. In 2021, Humanities and Social Sciences College topped out with 25.47%, but Science College showed obvious growth at 18.91% in 2021 compared to 13.58% in 2020.

Ratio of Undergrads' Participation in SDGs curriculum and activity



#### 4-1.3 Strengthen the Enrollment of International College, and Inter-office Cooperation for Overseas Students' Study and Counseling

- Established the NUK Office in Medan, Indonesia, increased sister schools and Indonesian students and changed the structure of overseas student source origin.
- In 2018, Indonesian Medan Office was established in conjunction with the alumni association network to open up opportunities for local internships, overseas study and exchanges. In 2021, 90 Indonesian students enrolled in NUK, of whom 28 were recommended by the Medan Office, accounting for 31.11% of overseas Indonesian students.

Ratio of foreign student origin

	2018	2019	2020	2021
Asia	93.00% (Indonesia 41.90%、Japan 13.10%、Malaysia 12.80%)	96.60% (Indonesia 34.00%、Malaysia 18.50%、Hong Kong 12.00%)	94.45% (Indonesia 35.71%、Malaysia 15.48%、Hong Kong 14.68%)	93.00% (Indonesia 41.90%、Japan 13.10%、Malaysia 12.80%)
Europe	2.60%	-	1.98	2.60%
Americas	4.20%	2.90%	3.57	4.20%
Oceania	0.30%	0.50%	-	0.30%

- Indonesian students are the main source of overseas students from 2018 to 2021; accounted 35.71% in 2021.

- Establish International College and integrate all-English courses
  - In 2021, an all-English curriculum of 55 credit courses across 4 disciplines was established, along with different levels of Chinese class to provide overseas students a better learning environment.
  - The Language Center offers free Chinese lessons in small classes, and holds language proficiency tests to place students accordingly.
- Strengthen the local integration and counseling mechanism of international students, and improve the assistance network for overseas students.
  - Since Fall 2018, the International Office and the Student Affairs Office have established a counselling reporting mechanism, including the counseling assistance network for overseas students, the emergency contact network for the NUK overseas exchange students, and linked the counselors of the Student Affairs Office and the International Affairs Office to establish SOP for handling special incidents of foreign students in NUK.
  - International Office organizes local visits. It has worked with Edu-Connect Southeast Asia Association, Kaohsiung to organize Indonesian Mother's Day for students to experience how the new residents from Southeast Asia celebrate their culture and festivals locally.
- Promote mobile courses and increase award subsidies; promote student exchanges and substantial cooperation with sister schools.
  - In 2019-2021, the number of overseas students is 950; NUK students going abroad for exchange are 343. In 2020-2021, due to the impact of the Covid19 pandemic and border control, the number of NUK students going abroad or international students decreased. In 2021, through online endeavor, the enrollment of overseas students grew 22.22% from 2020.

Statistics of exchange students

	2019	2020	2021	Total
NUK exchange	73	58	15	146
Foreign exchange	272	140	0	412
Overseas	194	207	252	653
Foreign internship	25	1	0	26



- ② NUK signed dual degree programs with 9 international partners, a total of 13 dual degree programs; by 2021, 15 students completed their master's degrees.
- ③ Due to the pandemic, the training of legal Japanese talents and mobile courses have been moved on line. By bilateral learning and discussions, integrated with SDGs and ESG themes, students are able to learn Japanese without disruptions.
- ④ In 2021, NUK held 13 series lectures with 7 universities in 5 countries, showing films directly to 27,000 viewers, which provides a new model of transnational, trans-cultural and interdisciplinary academic exchange.

#### 4-1.4 Develop International Cooperative Network through SDGs-Inside

- ① The SDGs ambassadors promote SDGs literacy.
  - ① They cooperated with University Tanjungpura, Indonesia to hold a 3-day online learning camp to study Indonesian culture with 40 students from both universities attending.
  - ② They planned SDGs English exchange with Xin-zhuang Senior High School, leading the bilingual class to explore the topics of sustainability.
  - ③ They were invited by Taiwan Think Tank to act as receptionists for 3-day Taiwan Climate Action Expo 2021 on December 3-5, 2021.
- ② Connect with domestic and foreign partners to broaden students' international experience and vision.

On October 16-24, 2021, International Youth Sustainability Leadership Online - SDGs Innovation Competition 2021 was held, with international schools participating. The competition encouraged creative proposals with SDGs and ESG as the main axis. A total of 61 domestic university students (including 42 foreign students) participated and produced 12 conceptual proposals, including establishing public and maternal health care system in the Philippines, assisting Bajau children in the Philippines to improve their education, integrating forest ecological conservation and Vietnam's economic development needs.

#### 4-1.5 Promote the SDG Literacy Test

The SDG literacy test was given for the first time in 2020, and the Chinese and English question bank and the Kaohsiung University SDGs literacy test system were also established. The analysis and feedback of the test results are used as a reference for the integration of SDGs into teaching and research.

- ① The number of students tested in 2021 was 1,218; the largest group representing 25% of test takers were the students in Management College. It is planned to have university-wide and external participants to take the test in 2021. Questions related ESG will be added to the bank.
- ② Through the SDG literacy test, it is to establish a sustainable talent cultivation system and feedback measures for the curriculum, understand what students learn and what they should improve in their training

### 4-2 Organizations and Regulations Related to Campus Environment

#### 4-2.1 Organizations Related to Campus Environment

- ① First-level office
  - ① The Campus Environmental Safety and Health Center: Its duties include safety and health, environmental protection and campus planning.
- ② Eight Committees
  - ① The Campus Sustainable Development and Planning Committee: to review and implement the ideals of environmental development and establish a mechanism for sustainable development of the campus.
  - ② The Environmental Protection, Safety and Health Committee: to maintain the quality of the campus environment and ensure the safety of the laboratory operations of faculty-staff and students in accordance with relevant laws and regulations such as environmental protection and labor safety and health.
  - ③ The Energy Conservation Committee: to strengthen the management of energy and promote the rational and effective use of energy in accordance with the provisions of Article 6 Paragraph 1 of the Enforcement Rules of the Energy Management Law
  - ④ The Biological Experiment Safety Committee: to ensure the experimental safety of faculty and researchers engaged in genetic recombination-related research in accordance with "Genetic Recombination Experimental Code" of MST.

- ⑤ The Laboratory Animal Care and Use Committee: to supervise the management and use of laboratory animals in accordance with Article 16 Paragraph 1 of the Animal Protection Law, with English title “Nation University of Kaohsiung Animal Care and Use Committee (NUKACUC)”.
- ⑥ The Public Art Executive Panel: to budget public art funds and implement public art projects in accordance with “Regulations Governing the Installation of Public Artwork”.
- ⑦ The Public Art Selection Panel: to handle the selection and installation site of public art projects.
- ⑧ The Public Art Appraisal Panel: to conduct appraisal after public art is installed.

#### 4.2.2 University Self-defined Regulations:

NUK currently has six regulations on campus environmental safety and health.

- ① NUK Environmental Safety and Health Policy
- ② NUK Safety and Health Management Regulations
- ③ NUK Code of Practice for Laboratory Safety and Hygiene
- ④ NUK Waste Disposal Act
- ⑤ NUK Measures for the Establishment of the Environmental Protection, Occupational Safety and Health Committee
- ⑥ NUK Measures for Establishment of the Environmental Safety and Health Center

### 4-3 Environmental Status and Management

#### 4-3.1 Air Quality Status and Management

- ① Laboratory gas emission control  
NUK has 94 laboratories equipped with forced air extraction equipment for exhaust cabinets: 55 in the College of Engineering and 39 in the College of Science. The gases are collected and discharged by a common pipeline in the activated carbon adsorption facility on the top floor of the buildings.
- ② Indoor air quality management  
“Indoor Air Quality Management Act” was implemented in 2012, and the first sites needing compliance with the “Act” were announced in 2014. The University Library was on top of the list for management. In order to protect the health of faculty-staff, students and the public, priority is given to installing a set of fixed-point continuous detection modules in the Library lobby on the second floor of the building in 2016 which was rated as a site with good indoor air quality in 2021

Data of Regular Inspection of Indoor Air Quality in the Library

test item	unit	test data	legal standard
CO2	ppm	504	1,000
CH2O	ppm	<0.06	0.08
PM10	μ g/m3	31	75
Bacteria	CFU/ m3	564	1,500



Indoor air quality real-time monitoring panel



Good indoor air quality certificate

#### 4-3.2 Water Resource Management

- ① Water resource treatment system

The main source of water for NUK comes from the tap water provided by District 7 of Taiwan Water Supply Company. The main source of water comes from the Gao-ping River, which is not significantly affected by the water intake.

Since 2010, NUK has cooperated with government agencies and implemented the Four-Saving Plan. Although the Plan ended in 2015, NUK has continued to implement water-saving measures. The annual water consumption will be reduced by 2% compared with the previous year. NUK intends to review the annual water conservation goals, but in recent years, the weather has been hot, and water consumption increases year after year. Due to the pandemic in 2020-2021, online teaching was adopted. Since the faculty and students were not on campus, the consumption of water decreased significantly.



- ① Reclaimed water system: The water treated by the NUK sewage treatment plant meets the discharge water standard. Except for heavy rain, 100% is recycled and stored in the middle tank of the sewage treatment plant and used as the campus ecological water system, irrigation, and plants to use.
- ② Rainwater recovery system: The rainwater storage and reuse system set at College of Humanities and Social Sciences is mainly to replenish the artificial lake nearby as an ecological water system.
- ③ Water-saving facilities: Budgets are made year by year to replace the urinals and toilets of male and female toilets and the taps on each floor to water-saving equipment.
- ④ Specific improvement measures for water saving in toilets include the widespread installment of two-stage flushing toilets or water-saving toilets

Statistics of water consumption

Year	Billing interval	Meter unit	Water saving rate calculated based on 2015	Water recovery volume	Water recovery PCT
2015	11/19/2014 11/23/2015	163,032	-	-	-
2016	11/24/2015 11/22/2016	188,022	-15.33%	117,309	62.39%
2017	11/23/2016 11/21/2017	176,309	-8.14%	111,621	63.31%
2018	11/22/2017 11/21/2018	203,490	-24.82%	171,938	84.49%
2019	11/22/2018 11/21/2019	204,291	-25.30%	179,294	87.76%
2020	2019/11/22 2020/11/21	152,389	9.53%	141,934	90.00%
2021	11/22/2020 11/21/2021	139,024	8.77%	128,551	92%

NUK internal water cycle system



Campus sewage treatment flow chart

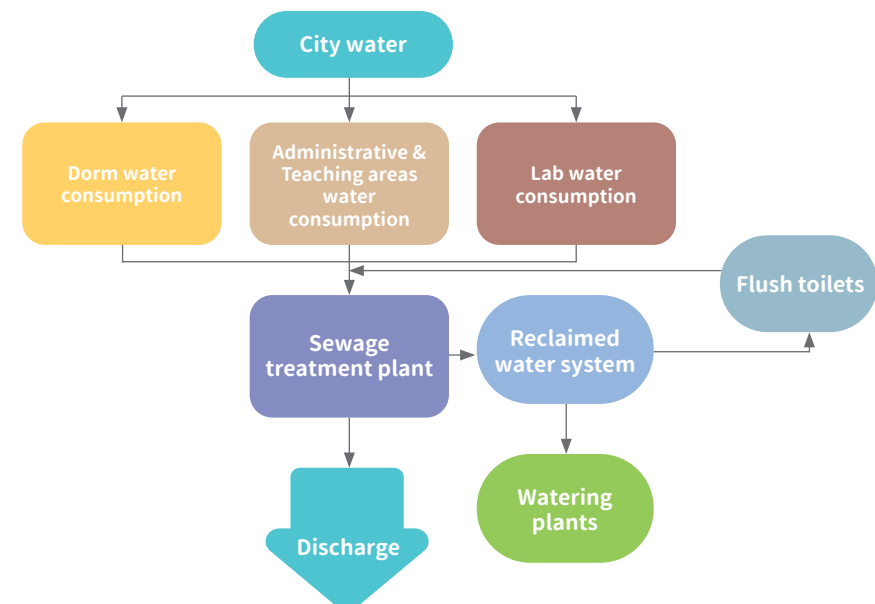


Chart of Water Consumption

Management of water resource		Volume (Million liters)
Water withdrawal (Divided by source)	Discharge divided by end point	
	(1) Surface water + ground water + sea water	0
	(2) Produced water (total)	0
	(3) Third-party water (total)	152.389
	Total water withdrawal	152.389 <sup>(*)</sup>
Discharge (Divided by end point)	(1) Surface water + ground water + sea water	0
	(2) Third-party water used by other organization	0
	(3) Third-party water (total)	14.883
	Total discharge	14.883
Total water consumption <sup>(*)</sup>		137.506

\*1: All fresh water (  $\leq 1,000\text{mg/L}$  Total dissolved solids)

\*2: Total water consumption = total water withdrawal - total discharge

List of removal rates of sewage treatment plant

Water quality standard	Removal rate
BOD	66.3%
COD	54.8%
SS	67.5%
Escherichia coli	98.0%

Discharge water quality test data and discharge water volume

Test Item	2019	2020	2021	Discharge standard
BOD(mg/l)	10.3	6.55	10.45	30
COD(mg/l)	42.7	31.9	39.9	100
SS(mg/l)	9.4	6.6	7.55	30
Escherichia coli (CFU/100mL)	28,850	34,250	23,988	200,000
Grease (mg/l)	0.88	1.55	0.7	10
Water temperature (oC)	26.9	27.3	28.7	35
PH	7.7	7.5	7.6	6-9
Discharge volume (CMD)	20,586	19,187		-

## 2 Sewage treatment

NUK sewage sources include laboratory washing waste, dormitory and office sewage, which are collected through pipelines and sent to the sewage treatment plant for treatment. The reclaimed water is mainly used as supplementary water for grass sprinkler and ecological waterways. When there is excessive displaced water, it will be discharged to the drain on the north side of the campus and eventually into the Dian-bao River. In addition to the traditional two-level biological treatment, the NUK sewage treatment plant is added with three-level treatment of filtering and ozone sterilization. The quality of the discharged water meets the discharged water standard revised on April 29, 2019. The discharged water standard is based on Article 7 Paragraph 2 of the Pollution Prevention and Control Law.

## 3 Drinking water

NKU has a total of 135 drinking fountains, and outsources regular monthly maintenance and regular replacement of filter materials, tank cleaning and disinfection. In accordance with the current drinking water laws and regulations, at least 1/8 of drinking fountains are inspected quarterly, i.e. 17 units, but the actual number inspected is 18 units. Water quality testing is based on the principle of sampling at least two drinking fountains in each building and once a quarter.



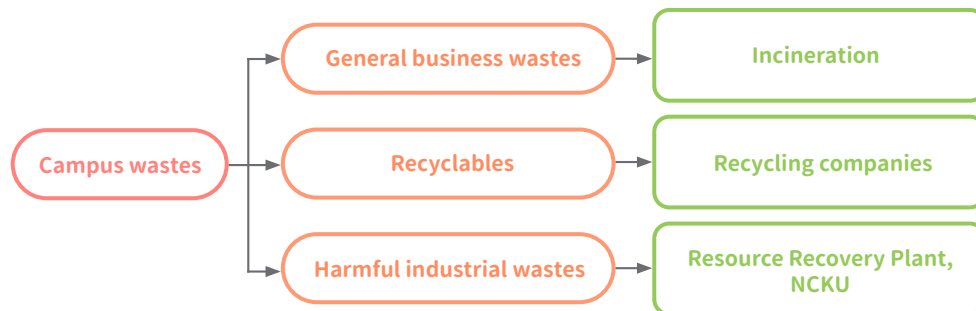
Test results of drinking fountains

Year	2019	2020	2021	Standard
Escherichia coli CFU/100mL	< 1	< 1	< 1	6
Total plate count CFU/mL	< 1	< 1	< 1	Nil

### 4-3.3 Waste Management

KU waste output can be roughly divided into general business waste and recyclables generated in the dormitory and office, and hazardous business waste generated in the laboratory. General business waste is entrusted to the manufacturer to be transported to the incineration plant for incineration; the harmful industrial wastes are cleaned and transported by qualified cleaning and transportation companies to Resource Recovery Plant of Environmental Resources Research and Management Center, National Cheng Kung University for disposal.

Waste treatment flow chart



List of general industrial waste disposal 2021

Industrial waste component	Hazardous waste		Non-hazardous waste		Note
	On-site	Off-site	On-site	Off-site	
Direct treatment	Incineration (incl. recycling)	59	-	298.95	-
	Landfill	-	-	-	-
	Others	-	-	14.55	-
	Subtotal	59	-	313.5	Recycling
	total	59	-	313.5	
sum	372.5				
Temporary storage	-				
Total waste	372.5				

Note:

1. Waste weights are in metric tons.
2. "On-site" is within the physical boundaries or administrative control of NUK; "off-site" is outside NUK's physical boundaries or administrative control.
3. All industrial wastes are sent to the entrusted manufacturer for disposal.
4. NUK has no transfer during disposal.

### 4-3.4 Occupational Safety and Health Management

#### 1 Occupational Safety and Health Management System

In order to ensure the safety of the faculty and students of NUK, in accordance with the occupational safety and health laws and regulations and the NUK's applicable workplace safety and health code, the laboratory safety and health and campus inspections are regularly implemented, following the authority and the MOE's management and inspections to ensure the safety of all faculty members and reduce the occurrence of disasters. In addition, NUK cooperated with MOE and the Labor Inspection Office of the Kaohsiung City Government to implement the campus safety and health guidelines for the Southern Alliance of Colleges and Universities.



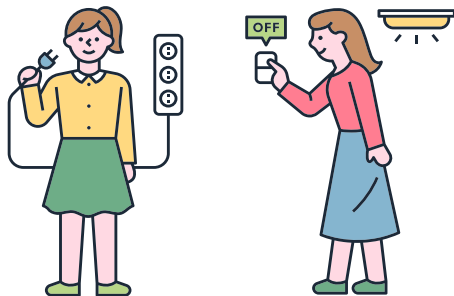
**(1) Management organization**

In order to integrate the management of workplace safety and health, toxic chemicals, radiation, and fire protection, NKU set up an Environmental Protection and Safety and Health Committee in accordance with relevant laws and regulations. The president-chair presides over the quarterly discussions on major environmental safety policies and topics which are recorded and compiled for future reference. The Committee includes the president as the chairperson, 3 administrative heads, 7 faculty representatives, 1 staff representative, 1 student representative and 1 occupational safety and health nurse, totaling 13 members.

**(2) Establishment of occupational safety and health management system:**

Establish and implement occupational safety and health management plans based on the Occupational Safety and Health Law, including management of machinery and equipment, marking and general knowledge of hazardous and harmful materials, planning and measurement of sampling strategies for hazardous working environments, and safety and health education and training. Formulate safety and health policies to announce to faculty, staff, students and all contractors. In addition, NKU Safety and Health Work Code was formulated in accordance with the Occupational Safety and Health Law, and was revised and approved by the administrative meeting on December 9, 2018, and reported to the Labor Inspection Division of the Labor Bureau of Kaohsiung City Government for reference.

1. NKU occupational disaster statistics are regularly compiled by Environmental Safety and Health Center on the Internet to report the monthly occupational disaster statistics, and keep records for the authority in charge to check. No accidents occurred in 2021.

**Statistical analysis of accidental injuries**

Status	Faculty		Staff		University hired	
Gender	M	F	M	F	M	F
Employee Disabling Frequency Rate (FR)	0	0	0	0	0	0
Employee Disabling Severity Rate (SR)	0	0	0	0	0	0
Incidence rate	0	0	0	0	0	0
Absenteeism rate	0%	0%	0%	0%	0%	3%
Total death	0	0	0	0	0	0

Note:

FR & SR do not include traffic accidents in commute

1. FR= number of disabling injuries/Number of man-hours worked

2. SR = days lost in a year due to accidents x 1000,000/number of man-hours worked

3. Absenteeism: Occupational Sickness Leave + Sick leave/total period (yearly work day x number of the gender) x 100%

4. The total working hours are accumulated based on the monthly working hours data of Personnel Office

2. Regularly and occasionally conduct environmental safety inspections of experimental sites, assist in the improvement of laboratory shortcomings and review the progress of improvement for unqualified items, and cooperate with the Laboratory Safety and Health Certification System promoted by MOE.
3. The Environment Safety and Health Center regularly cooperates with MOE to declare the number of dangerous machinery and equipment in NKU practice (study) sites in April and October yearly.

**Statistics of dangerous machinery and equipment**

Lab name	Equipment	Type	No. of room
Wood & Bamboo Design Studio	Grinding machine *1	danger	1
Wood & Bamboo Design Studio	Circular saw for wood *1	danger	1
Magnetism Semiconductor Lab	2 <sup>nd</sup> pressure vessel*1	danger	1
Nano-Optoelectronic Lab	2 <sup>nd</sup> pressure vessel*1	danger	1
Microbial Biochemistry Lab	Autoclave*1	danger	1
Plant Biochemical Lab	Small pressure vessel*1	danger	1



4. For machinery, equipment or appliances specified by laws and regulations, it is required to gradually improve appropriate protective facilities, and to post standard operating procedures, where the machinery and equipment are, clearly visible to comply with the regulations.
5. The mechanical equipment and appliances used in the contracted project are stipulated in the contract that the contractor must meet the legal standards and regulations, and the contractor will control the usage; otherwise they will not be allowed to enter the site.

### (3) Implement the management of hazardous and harmful materials

1. The chemicals in the laboratory shall be classified and labelled according to "Hazardous Chemical Labeling and General Knowledge Rules" and "NKU Hazardous and Harmful Substances General Knowledge Plan", implementing "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)". NKU adopts laboratory supervising, educational training, and requires drug suppliers to cooperate in improving chemical labeling, so that the NKU drug management can gradually comply with the regulations of GHS.
2. NKU labs list hazardous chemicals and safety data sheets for the reference of lab personnel. The storage of hazardous and harmful materials is managed by the guidance of a supervisory laboratory according to the attributes of the drugs. In environmental safety inspection, they have to confirm the records are regularly renewed in compliance with laws and regulations. In addition, hazard warning signs are set up in controlled areas in accordance with laws and regulations for special hazardous workplaces.
3. Lab refrigerator storage cabinets clearly prohibit the storage of food in accordance with laboratory rules, and no eating or drinking is allowed in the laboratory.

### (4) Management of Toxic Chemical Substances

1. NUK applies for permits for use of all toxic chemicals from the Environmental Protection Bureau of Kaohsiung City Government in accordance with laws and regulations. There are currently 80 kinds in total. In order to control the purchase of toxic chemical substances, records are filed and kept in accordance with regulations. The information is compiled and reported to the Environmental Safety and Health Committee in session.

2. In order to integrate and manage the safety and health, toxic chemicals, and radiation at the laboratories, the Environmental Protection and Safety and Health Committee is set up in accordance with statutory regulations, and meets quarterly.
3. The Campus Environmental Safety and Health Center regularly visits the operating sites of toxic chemical substances to understand the actual operating conditions of the laboratories to provide guidance and make improvements.

### (5) Hazardous work safety and health management

1. Before assessing hazard risk in the experiment performed by every lab, each lab should first check the experimental conditions, and then the staff of the Environmental Safety and Health Center will assist in completing in records according to the assessed hazard level. Afterwards, it will evaluate whether construction improvement or personnel improvement is needed. Environmental Safety and Health Center will assist completing the necessary improvement.
2. Formulate standard operating procedures for various environmental safety and health services, and publish them on the website of Environmental Safety and Health Center for enquiries and follow-up by faculty, staff and students.
3. Implement lab work environment measurement in April and October yearly. The types, dosages and frequencies of hazardous substances in each lab are used to evaluate laboratory hazard exposures and be used as sampling points for the work environment. If the results or work environment measurement are not in compliance with laws and regulations, the deficiency will be immediately improved to meet the permissible concentration standard of harmful substances

### (6) Occupational disaster prevention measures

1. Regularly test the radiation of the working environment.
2. Fire safety management

- (1) A fire protection plan is established and implemented in accordance with "Fire Services Act".
- (2) The fire prevention facility is entrusted to the fire prevention equipment company to carry out inspection, maintenance and supervision monthly. When any malfunction occurs, it will be immediately repaired to maintain normal functions.
- (3) NUK fire safety equipment is regularly inspected, maintained and repaired, and a fire safety inspection report is prepared.

### 3. Distribution, labelling and management of protective gear

- (1) NUK is equipped with protective items and emergency equipment, including chemical absorbent cotton, protective clothing, emergency oxygen supply devices, and gas masks, which are placed in accessible locations according to regulations and clearly labelled.

#### List of lab protective gear

1	Half Facepiece	2	canister (filter)	3	fire blanket
4	C grade protective clothing	5	acid and alkali resistant organic gloves	6	C grade acid and alkali resistant shoe cover
7	blue absorbent rope	8	absorbent cotton pad	9	fire extinguishing appliances and escape indicator lights

- (2) The laboratories are equipped with sufficient personal protective equipment, first aid kits and fire extinguishers, and the laboratory rules are required to clearly stipulate that appropriate protective equipment should be put on when entering the laboratory.
- (3) Emergency shower and eyewash equipment are installed outside the lab, which the Campus Environmental Safety and Health Center regularly inspects and repairs. When malfunction occurs, the lab will immediately ask a professional company to repair it.
- (4) Personal protective equipment and fire prevention facilities in the lab should be managed by the lab itself for maintenance and self-inspection; the first aid kits should be replaced by the lab itself.

4. **Accident investigation:** When an accident occurs in NUK, the person who finds it must report to the department supervisor and immediately report to the Environmental Safety and Health Center. The department supervisor should take response and handle in accordance with the relevant emergency response procedures. After the accident is handled, the Environmental Safety and Health Center convenes relevant departments to investigate, analyze and confirm the circumstances and causes of the incident, and submit the "School Disaster Accident Report" to the management representative for confirmation, review and improvement. If necessary, the report is submitted to the Environmental Protection and Safety and Health Committee for explanation.

### (7) Safety and health education and training

1. For freshman education and training, the Safety and Health Center hires experts and scholars in the field of occupational safety to schedule 3 hours of related courses every academic year. In addition, 3 hours of safety and health education and training are scheduled for lab personnel to strengthen the implementation of lab safety and health. In addition, lab instructors are invited to promote the safety and health rules of each lab for students in the first week of the lab course.
2. Ionizing radiation education and training are regularly held once a year for 3 hours. All faculty, staff and students who use radiation equipment must attend.

### (8) Occupational safety management of contractors

1. For the safety and health of the faculty, staff, and contractors, our school, in accordance with Article 26 of the Occupational Safety and Health Law, when all or part of the University business is handed over to contractor, the contractor shall be informed in advance of the working environment, hazards, and safety and health requirements to take necessary measures. Before each outsourcing work is delivered to the contractor, both parties must jointly sign a contract. During the contract period, in addition to complying with the provisions of the contracted project, they must abide by the government's occupational safety and health, environmental protection, and fire protection laws and other relevant laws and regulations.



2. The school also requires the contractor to designate the person in charge of the contracted project in the design phase and before the construction of each project phase for the public construction project in the school, and to act as command, supervision and coordination work. According to its design planning, construction method or operation type, reports on hazard identification, risk assessment, and control measures taken based on the assessment results are submitted, and the formal construction can be carried out after the school's contracting unit has reviewed and confirmed it. In 2020, there was no occupational accident in the contracting of on-campus projects.

## 2 To protect the health of employees

- ① Assessment of hazard identification and risk: In order to maintain the health and well-being of NKU staff, prevent and deal with workplace violence, and ensure the physical and mental health of workers, the school has established the "National Kaohsiung University's Management Plan for the Prevention and Management of Illegal Violations in Executive Duties." Every year, professional nurses and safety and health managers go to various workplaces to identify the characteristics of potentially risky groups (such as night shifts, shifts, long working hours, high workload, insecure positions and working environment), and conduct risks evaluation, including possible types of violence, evaluation of frequency, severity, risk level, identification of existing violence control measures and risk reduction control measures.
- ② Regularly hold various health promotion activities and health checks: In order to protect the health of faculty and staff, in addition to regular general health checks, health checks for special hazards, and influenza vaccination, in response to the COVID-19 outbreak in 2021, NKU also has provided education and training for the pick-up staff in the International Office to receive international students at the airport as well as the epidemic prevention education and training for catering staff, and provides on-site consultation and inspection for special hazardous environments by physicians every 2 months. The service provides health and medical consultation and recommendations for inspection of special hazards to the environment to maintain the health of faculty and staff, improve the safety of the working environment, and reduce the occurrence of injuries. Furthermore, NKU continues to promote health awareness activities, encourage faculty and staff to participate at work, support faculty and staff emotionally and promote physical and mental health.

Item	No. participant	Activity
Health checks for employees	68	Regular health checks and special health-hazard checks for employees were carried out; St. Joseph Hospital provided the services on October 4, 2021.
Health risk management	12	Implement health hazard management for personnel working in the environment of health hazards (such as ionizing radiation, dimethylformamide).
Flu Vaccination	93	Free vaccination for the faculty and staff by Royal Artemis Hospital, April 20, 2021.
Medical on-site service	20	6 medical on-site services were carried out, for health and medical consultation, health education, inspecting special hazards to the lab environment and providing relevant suggestions and measures.
Prevention education and training for infectious disease	33 and 388 online	In response to Covid-19 pandemic, 2 preventive trainings were held (including on-line participation), including education for pick-up staff for foreign students in the International Office.
Maternal health protection	2	Provided 2 pregnant employees with education for pregnancy risk assessment.
Prevention for cerebral cardiovascular and heart disease	19	68 employees had health checks; 18 with hyperlipidemia (CHOL>200 or TG>150 or HDL<40 or LDL>130); 1 high blood pressure (BP>140/90); providing health education and follow-up examinations.
Prevention of ergonomic hazards	16	For faculty and staff with symptoms of musculoskeletal discomfort, conduct ergonomic hazards assessment and provide measures of prevention and promotion.
First Aid Education and Training	20	"First Aid Education and Training" was held, Feb 2-4, 2021 on campus by Kaohsiung Vocational Training Center affiliated to Industrial Safety and Health Association, ROC. At present, 20 NUK employees are qualified for first aid.
Weight control class	24	In 2020, 56 employees had health checks; 18 had BMI over 24kg/m <sup>2</sup> , accounting for 32% of those undergoing health checks. In 2021, weight control classes were organized to support healthy weight loss.
Healthy lunch box (cancelled once due to the pandemic)		

Flu vaccination



Weight control workshop



Doctors on-site consultation



First aid education &amp; training



## 4-4 Energy saving strategy

### 4-4.1 Energy Saving Measures

The main strategies and actions of NUK's energy saving measures are shown in the following table:

List of power saving strategies and action plans

Strategy	Action plan	Explanation
Energy saving control management	Central Power Monitoring System	Use the digital meter network connective function to monitor and control the electricity consumption of each building online.
	Implement space self-management	Each building manages its own electricity bill and implements user charge for energy conservation.
	Independent organization and outdoor court meter installation	Set up independent electricity meters for the electricity consumption of organizations stationed at NUK and outdoor courts to calculate and control their electricity consumption.
	Adjust air conditioning start and stop time	During the winter season (Dec to March of the following year), the administration building and general classrooms stop using air conditioning.
	Adjust opening hours of the Library	Set different opening hours due to the function and frequency of use in each space. It is not open on Saturdays and Sundays during winter and summer vacations.
Replace power-consuming equipment	Participate in the demand bidding measures of Tai Power	Participate in the demand bidding of Tai Power, saving energy and electricity costs
	Gradually build smart classrooms	This project uses network cloud technology and focuses on low-carbon and energy-saving to build smart classrooms and lecture halls in six teaching buildings with air-conditioning and scheduling management. Users use the course scheduling system and space borrowing system to transmit in real time, integrate air conditioning monitoring and database management, and establish comprehensive automatic air conditioning scheduling control, temperature monitoring, and opening and closing program control to improve the accuracy and reliability of classroom air conditioning management to achieve the Goal of promoting the sustainable development of the environment and improving the quality of the learning environment.
	1. Replace old air-conditioning system	Annual budgets are made to replace the old air-conditioning system with the one with an inverter. The replacements in College of Science and Engineering have been completed.
Use of renewable energy	2. Lighting fixtures are gradually replaced with LED lights	Annual budgets are made to replace lighting fixtures with LED lights, and the replacements of the campus roads, parking lots, classrooms and lecture halls of various buildings have been completed.
	Solar water heating system	A 100% solar water heating system is used to provide hot water in the student dormitories.
	Solar photovoltaic system	1. The Administrative Building and College of Law set up solar photovoltaic panels to generate electricity, with a total power generation of 36.4kw, and 15 renewable energy certificates were issued. 2. In line with "A Million Solar Roofs" Project, solar power generation systems were installed on the roofs of the university buildings, with a total of 1,217.76kw.



## Statistics of electricity consumption

Year	Total electricity used (kWh)	Total electricity used (GJ)	Electricity saving PCT	EUI
2015	14,201,510	51,084.57	-	59
2016	14,528,086	52,259.30	-2.27%	60
2017	14,090,386	50,684.84	0.81%	36
2018	12,884,463	46,346.99	9.27%	33
2019	12,970,796	46694.89	8.67%	33
2020	12,733,420	45,840.31	10.28%	32.6
2021	11,292,628	40,620.97	20.43%	28.9

EUI=Total electricity used (kWh)/NUK Total floor area

2015 was selected as the base year for the implementation of the Central Four-Saving plan.

## Solar panels



## List of solar photovoltaic power generation equipment

Item	Site	(kwp)Total installed capacity (kwp)	Mode of operation
1	College of Law	26.4	REC
2	Admin. BL	10.0	REC
3	College of Engineering	209.45	FIT
4	Motor-and-Bicycle Parking Lot	246.62	FIT
5	Library & Info BL	348.395	FIT
6	College of Management	93.81	FIT
7	1st General BL	154.875	FIT
8	Admin. BL	57.525	FIT
9	Student Dorm	56.64	FIT
10	Staff Dorm	50.445	FIT
Total		1,254.16	

FIT: Feed-in Tariff;  
REC: Renewable Energy Certificate

## 4-4.2 Gasoline Saving Measures

- (1) Regular maintenance and inspection of official vehicles on campus to maintain high fuel efficiency.
- (2) Replace old official vehicles, and purchase new vehicles with high efficiency and low fuel consumption.

## Statistics of gasoline consumption

Year	Gasoline (L)	Diesel (L)	Total oil consumption (L)	Oil saving PCT (%)
2015	3,672.00		3,672.00	-
2016	1,612.66	1,955.90	3,568.56	2.82%
2017	6,236.45	4,373.36	10,609.81	-188.94%
2018	5,489.40	1,326.30	6,815.70	-85.61%
2019	5,227.26	880.41	6,107.67	-66.33%
2020	4,774.51	1,424.93	6,199.44	-68.83%
2021	5,690.06	847.16	6537.22	-78.03%

\*2015 is the base period for calculation; there are no separate statistics for gasoline and diesel in 2015.

## 4-4.3 Carbon Emissions

Based on the government regulations, NUK set 2015 as the base year. Since then it has self-estimated greenhouse gas emissions annually to fully understand the current status. The total carbon emissions in 2019 decreased by 4.19% compared to 2015, mainly due to the implementation of energy-saving measures such as replacing old air-conditioners and using energy-saving light fixtures.

## Carbon emissions

Year	Carbon Emissions (CO2e ton)	Reduction compared to 2015 (%)	Carbon Emissions per person (CO2e/pp ton)
2015	7,400.630	-	1.41
2016	7,617.742	-2.93	1.23
2017	7,438.977	-0.52	1.17
2018	6,754.273	8.73	1.06
2019	7,090.454	4.19	1.10
2020	6,786.914	8.29%	1.07
2021	5,732.896	22.54%	0.85

\*Carbon emissions are self-estimated, activity data are collected from electricity bills, and carbon emissions are directly quoted from electricity bills.

\* 2015 was selected as the base year for the implementation of the Central Four-Saving plan.

## 4-5 Sustainable Campus Management

### 4-5.1 Green Buildings on Campus

Since 2012, every new building in NUK has been awarded the green building label and affirmed by the Kaohsiung City Government.

List of green buildings

Building	Date	Award
College of Humanities and Social Sciences Building	Oct. 2012	9 indicators of Gold Label Green Building
	2013	Participated in the Kaohsiung Green Building Award and won Public Building Award and Rainwater Storage Facilities and Reuse Award
Administration Building	Sept. 2014	9 indicators of Bronze Label Green Building
Second Student Dormitory	April 2016	Qualified Green Building Label for Dormitory

### 4-5.2 Green Procurement

In response to global warming and reducing human damage to the environment, "green consumption" can reduce the environmental impact caused by production and consumption.

Green procurement achievement rate

Year	2019	2020	2021
Achievement rate	99.7%	99.7%	99.37%

### 4-5.3 Campus Vehicle Management and Installment of Youbike 2.0

Locomotives are forbidden to enter NUK's large campus. The loop around the campus is a 10-meter lane with green belts; the pedestrian and bicycle lanes are separated. NUK has built a bicycle path around the campus. The Kaohsiung City Government set up a public bicycle rental station at the entrance of NUK which is a part of the city bicycle path network.

Campus public bicycles



- 1 Lo-ho Kitchen
- 2 NUK Library
- 3 Humanities & Social Sciences College
- 4 Family Mart
- 5 General Dormitory
- 6 Osh Car Wash
- 7 Law College
- 8 Ms. Bitch 2





#### 4-5.4 Create Biodiverse Habitats

Although NUK does not have a protected or restored habitat, it is committed to creating a sustainable ecological environment. The green area of the campus occupies 51.6% of the land with 142 species of arbors. The ecological pond is an artificial wetland. Since the establishment of NUK, it has been the most important attraction on campus.

NUK has recorded a total of 68 species of birds in 36 families over the years. In recent years, 59 species in 30 families are regularly sighted, including the rare second-class protected species, crested goshawk, black-winged kite, yellow oriole, and the third-class protected species red-tailed shrike. Since 2021, NUK and Kaohsiung Wild Bird Society have been monitoring the conservation of orioles and conducting monthly survey.

Number of species of butterfly and arbor

Year	2019	2020	2021
Butterfly	46	44	51
Arbor	137	138	142

#### 4-5.5 Manage Stray Dogs on Campus

Since August 1, 2015, the Campus Environmental Safety and Health Center has cooperated with the Student Pet Research Society to solve the problem of stray dogs on campus. The faculty and students seek help and guidance from different animal protection groups, such as Dogs Lover and Heart of Taiwan Animal Care to treat the stray dogs more friendly and humanely. When the dogs become tame and controllable, they are given sterilization and vaccines and then are listed for control and regularly receive heartworm medicine, rabies vaccine and other medical attention. NUK has also adopted the strategy to use the tamed campus dogs to keep the new stray ones out. In addition, a kennel was set up to care for the injured and sick dogs waiting for adoption. A website is constructed to report about the dogs and educate the faculty, staff and students, and announce adoption information in order to create a canine-friendly campus.

Number of species of butterfly and arbor

	Stray caught	Altered	Adoption meeting	adoption	Rabies vaxxed
2019	17	11	6	8	20
2020	15	9	1	9	18
2021	3	3	2	2	19

#### 4-6 Campus Safety

Our Campus is in the public domain. NUK has been proud to have a friendly campus since its foundation. It not only provides students, faculty and staff with high-quality campus and environment but also surrounding residents an ideal place for exercise and leisure. In addition to regular patrols for 24-hour security, a number of campus safety activities were organized for students.

Furthermore, first aid education and training for faculty and staff are promoted. In addition to the "CPR+AED First Aid Promotion Activity" for all university freshmen during the freshman week, the school also organizes related injury treatment courses for all teachers and students.

Activities Related to Campus Security 2021

Date	Activity	No. Participant
2/22-6/25	Visits and reviews on off-campus rental housing safety	85
2/22-6/25	Handling off-campus rental disputes	4
2/22-9/26	Visits and reviews on additional off-campus rental housing safety; update rental information website	3
2/22-2/26	Friendly Campus Week; petition for anti-drug & anti-bullying	212
3/8	The beginning-of-the-semester dormitory residents' assembly	69
3/15-19	Expo of off-campus rental housing	250
3/17	Current students drawing lots for dormitory 2021	869
3/24	Tomb-sweeping Festival: Enjoying spring rolls (Dorm activity)	46
3/25	Campaign on prevention of drug abuse, Ju-guang Primary School, Kao-hsiung Cit	approx 32
3/26	Campaign on prevention of drug abuse, Jia-chang Primary School, Kao-hsiung City	approx 35

Date	Activity	No. Participant
3/31	Campaign on prevention of drug abuse, Jia-wei Primary School, Kao-hsiung City	about 33
4/13	Workshop on off-campus rental and legal knowledge	50
4/27	Workshop: What a university student should know about the laws of intellectual property, anti-bullying and traffic accidents	250
4/29	Celebrating Mother's Day -- Fragrance Brick DIY (Dorm activity)	36
5/13	Anti-smoking Committee, 2020	15
8/15-9/22	Freshman Week 2021: Campaign for campus safety	approx 1200
8/25/2021-3/5/2022	Infectious Disease Prevention Publicity and First Aid Training on campus (online film)	388
9/22	Dormitory fire drill	1250
9/22-30	Friendly Campus Week; petition for anti-drug & anti-bullying	320
9/28	Implementing National Disaster Prevention Day Earthquake Evacuation Covering Drill 2021	250
10/26-11/2	Officers meeting combined with anti-drug, anti-smoking, campus safety and traffic safety campaigns.	approx 120
11/3	Workshop on traffic safety and anti-smoking	50
11/10	Workshop on prevention of drug abuse and legal education	52
11/1-12/31	Class advisors' visits on off-campus rental housing	1,200
12/2	Workshop on moss balls (Dorm activity)	30
1/20-12/8	CPR+AED education and training for faculty and staff; Re-certified for safe site	350
12/24	Handling off-campus rental disputes	1

## 4-7 Environmental Education

### 4-7.1 Teaching Sustainable Development Course

NUK annually offers general education courses related to environment, sustainability and ecology. According to statistics of the last two academic years (2020-2021), an average of 5 teachers offered classes annually, and the total number of classes offered was 28. 1,400 students attended the courses, and on average, about one-fifth of the NUK students take such courses annually.

### Statistics of environmental sustainability general education courses

Title	No. class	No. attendants
Introduction to Ecology	4	221
Introduction to Nature Conservation	4	235
Environmental Protection	4	179
Environmental Ethics	16	765
Total	28	1,400

### 4-7.2 Important Activities on Sustainable Development Topics

Since NUK signed the "Talloires Declaration" in 2004, it has organized a series of "Sustainable Week" activities every year. It has become an NUK tradition to promote sustainable education. Through different topics and activities, faculty, students, community members, and teachers and students in primary and secondary schools can obtain comprehensive environmental information and establish environmental ethics. In the early days, NUK held action dramas, road running competitions, several second-hand book and article sales, energy-saving workshops, and film appreciations to enhance the environmental awareness, and to conduct laboratory or fire drills. Electric vehicles were also displayed to encourage the use of green energy. Faculty and students can acquire the integrated knowledge of sustainable development and environmental protection in all aspects. Since 2021, complied with the national policy, NUK has used the rich ecological resources on campus to conduct various environmental education. In 2021, signing working partnership with Kaohsiung City Wild Bird Society, NUK began to conserve orioles. Through the workshops and a series of activities in Sustainability Week, the faculty, students and the general public not only gained a better understanding of avian conservations but participated in monitoring and guarding the birds' nests. The following activity records show NUK's determination to promote environmental sustainability.



## Annual Sustainability Week Activity List

Year	Activity	No. Participant
2019	"Birds and Environment" and "Snakes and Environment" – Environmental Education Series, Sustainability Week	109
2020	On-line activities: "Review of the past Annual Sustainability Weeks", "Trees, Tall Trees on Campus" & "History of Our Campus"	328
2021	<ul style="list-style-type: none"> <li>· Sign Oriole Conservation Partnership in March</li> <li>· Co-hold "Oriole Environmental Education Series" (50 participants)</li> <li>· Hold Sustainability Week environmental education series in October</li> <li>· "Special exhibition of oriole ecology and conservation in NUK"(approx 100 participants)</li> <li>· Online lecture, "The Difficulties and Opportunities of Bird Conservation" (173 participants)</li> <li>· "NUK Oriole Environmental Education Volunteer training workshop" (31 participants)</li> </ul>	354

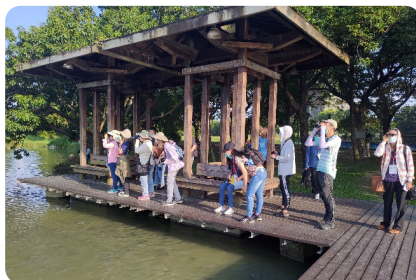
Signing working partnership for orioles conservation



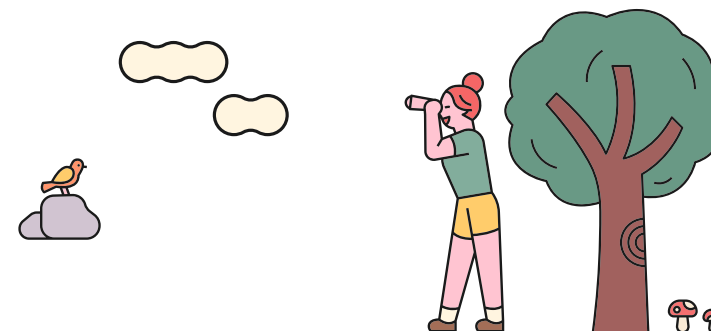
Watching orioles workshop on campus



Oriole Education Volunteer training workshop



Exhibition of oriole ecology and conservation





## 5

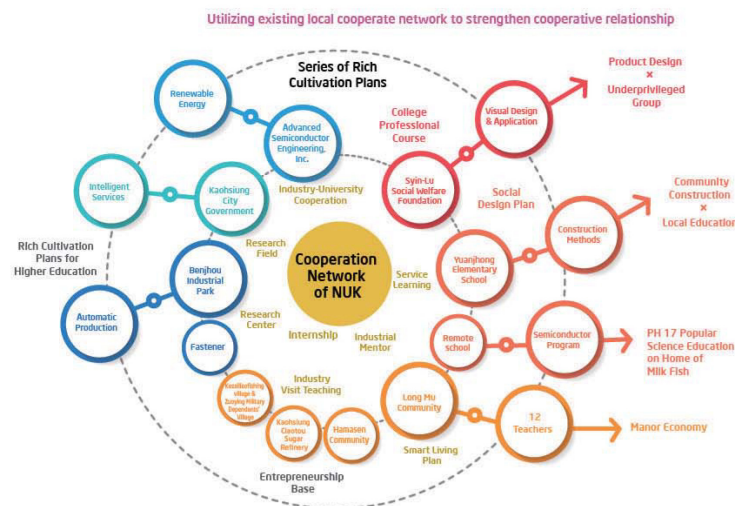
5-1 Fulfil Social Responsibility: Design for Community

5-2 Improve the Publicness of Higher Education: Design for Educational Equality

## Chapter 5

## Social Inclusion

## 5-1 Fulfil Social Responsibility: Design for Community



Nanzi District, the largest expropriated area in Kaohsiung City, where NUK is located in the center, is the driving force of community economy. In recent years, Nanzi's population has grown rapidly with new residents. When NUK was first founded, it established "NUK Community Development Cultural and Educational Foundation" to connect with local governments and non-governmental organizations. The latest school development plan also internalizes social responsibility into the campus culture.

Through Teaching Excellence and Sprout Projects, NUK has engaged in transforming old buildings and spaces such as Hamasing Community into student entrepreneurial bases, assisting the neighboring Zuoying military village, preserving the culture of Qiaotou sugar industry, maintaining and restoring historical sites in Kaohsiung, planning the urban and rural style of

Yongan District, reconstructing Er-a-liao Fishing Village, and constructing information platform for Kaohsiung City Disaster Prevention and Rescue to strengthen its decision-making analysis and response, and also assisting the southern steel fastener industry and precision manufacturing industry to develop metal materials. At the same time NUK has worked with the surrounding communities in 6 areas: revitalization of space, preservation of cultural assets, self-reliant economy for underprivileged groups, community ecological sustainability, industrial upgrading, education of popular science in remote areas. Since 2019, the NUK faculty and students have further extended the engagements to Tainan, Pingtung, and off-shore Kinmen.

## Use existing and local networks to enhance cooperation

## 5-1.1 Compulsory Service Learning and the Spirit of Social Responsibility

In order to encourage students to care about public welfare and serve communities, to combine the theories and practices they have learned, and to achieve holistic growth, NUK has formulated school-wide training courses for service learning as graduation requirements. The students are required to take service learning courses of 1 academic year, which can be taken in different semesters, as the basis of their awareness of social care and social responsibility. Every semester about 1,000 students take the courses which are divided into two types: campus service and off-campus community service:



- 1 Social responsibility in on-campus services: In principle, students will serve in teaching facilities and administrative offices to learn about environment care, engage in scholarly activities and establish the concept of service. The offices that apply for the services organize and provide learning courses which are reviewed and approved by the Counseling Section, the Students Affairs Office.
- 2 Social concern in off-campus services: The activities are combined with services groups and held regularly at fixed locations and time, including helping primary and secondary school students learn, life guidance, counseling for underprivileged groups and charity organizations, and community services. The activities are reviewed by the Extracurricular Activities Section, the Students Affairs Office. Every semester, there are at least 7 student clubs combined with service learning courses which lead students to provide various services off campus.

List of community services off campus

Year	No. groups	No. participants
2019	6	279
2020	7	280
2021	6	212

### 5-1.2 Construct a Care System by Service Learning in General Education Curriculum

In addition to the mandatory common service learning courses for every student, assisted by various offices and groups, the General Education Center offers optional service learning courses led by faculty members, so that students can receive better understanding of the subject matters. The service learning courses in general education in 2019-2021 involved a total of 9 faculty members with 21 courses offered and 742 students attending. The focus on "social participatory learning" deepens the content of services and broadens the area of services.

### 5-1.3 Volunteer Services: Establish Healthy Partnership with Communities

The rich ecology on campus is also an educational resource for the community. In 2014, NUK began to construct a butterfly trail in the wetland and recruited community volunteers to form an ecological protection team. It welcomed the public to get involved in the overall construction of the environment. At present, the volunteer team has 57 members, and 90% of them come from the local community. About half of them are over 55 years old. They have joined the work of building habitat, plant care, butterfly ecological survey, and plant survey so that the community and NUK are closely connected and working together.

Statistics of number and hours of volunteer services

Year	2019	2020	2021
No. Volunteer	57	63	68
Service hour	2,984	3,299	3,297

Since 2000, NUK has been actively cooperating with neighboring primary and high schools in partnership to campaign for public health. In May 2015, it cooperated with 5 neighboring schools (Kaohsiung Municipal Chung Shan Senior High School, National Sun Yat-Sen University affiliated Guoguang Senior High School, Guochang Junior High School, Yuanzhong Primary School, Ziguan Primary School), signing a cooperation memorandum of "Health Promotion Partnership Schools" to establish community partnerships, to create a healthy campus, and campaign for public health in various activities. The promotion won MOE's and evaluation team's recognition. In 2021, 113 activities to promote health awareness were held and 13,814 people were involved.

Volunteers conserving natural habitat



Environmental education by volunteers



### 5-1.4 Launch Community Design Module and Practicum

#### 1 Encourage faculty to develop community collaboration teams through interdisciplinary courses, and nurture emerging University Social Responsibility (hereafter USR) teams:

- 1 Strengthen reward system and flexible learning mechanism for faculty's and student's participation in social responsibility; improve the school support platform for social issues; match the school team and the practice field concerning work topics; expand the breadth and depth of the school's competitive schemes.
- 2 Participate in Taiwan Climate Action Expo 2021 to demonstrate NUK's achievements in relation to SDGs topics and enhance the international value of local field.

Exhibit SDGs action results in Taiwan Climate Action Expo, 2021



#### 2 Promote community-based education guided by practicing community design

On the basis of USR Hub, link with external fields and community learning, support and connect the platform of the local topics to implement 4 projects:

- (1) "Crossing generational gap": Mutual assistance of the young and old, training for sustainable home
- (2) "Happy Campus": Flip project for environmental education
- (3) Training for sustainable community and city
- (4) Create cultural space and platform, and international community learning

#### 3 Initiate community design curriculum to assist the interdisciplinary faculty team in the field.

##### 1 Encourage faculty to develop community collaboration teams through interdisciplinary courses, and nurture emerging University Social Responsibility (hereafter USR) teams:

- 1 Continue Sprout Projects to assist the local underprivileged groups to gain economic independence, to revitalize and to conserve ecology, culture and history. In 2021, 8 faculty members, 14 courses, and 667 students were involved.
- 2 Link course content with non-profit organization (hereafter NPO) channel to establish a cross-school and local NPO network: Integrate SDGs, combine innovative online teaching and BookRoll learning history platform in Kyoto University, cooperate with social enterprises of NPO channel and the e-commerce course work, thus to be engaged in social enterprise, sustainable development and international community. To reach SDG goal of "Decent Work and Economic Growth", NUK students joint the challenge of "The 4th Campus Business Competition 2021", won 11 awards in the areas of Writing, Innovative Marketing and Community Management, including 3 golds, 1 silver, 3 bronzes and 4 Honorable Mentions.

##### 2 Promote the incubation of emerging USR teams through competitive seed planning solutions:

- 1 "Grandparents' Life Stories I": Disease narrative, health management and the creation of a community for the elderly with few children: Promote intergenerational education based on shared learning between grandparents and grandchildren. The NUK teacher and student team bridge the gap between different generations. Through cross-field health management courses, it promotes positive inter-generational emotional interaction, eliminates prejudices, and enhances the quality of education and life.





- ② Hold 5 “Cross-generational Community Learning” workshops with 225 participants, 2 series lectures on “NUK Social Care for Aging Society” with 243 participants, 3 workshops on “Mirco-credits for Life Wisdom of Golden Years” with 18 participants, 1 workshop with 7 classes on “Smart Phone for Senior Citizens” with 31 participants; in combination with NUK courses, “Literature and Film I” and “Literature and Film II”, 2 poster, essay and speech contests on “Medicine, Humanity and Reading” were held. As a result, 29 posters and essays, 20 speech videos, and 1 book collection of grandparents’ narratives on disease have been published.

English camp for grandparents & grandchildren



### ③ “From NUK to the Crowd: Core Plan Based on Science Education”

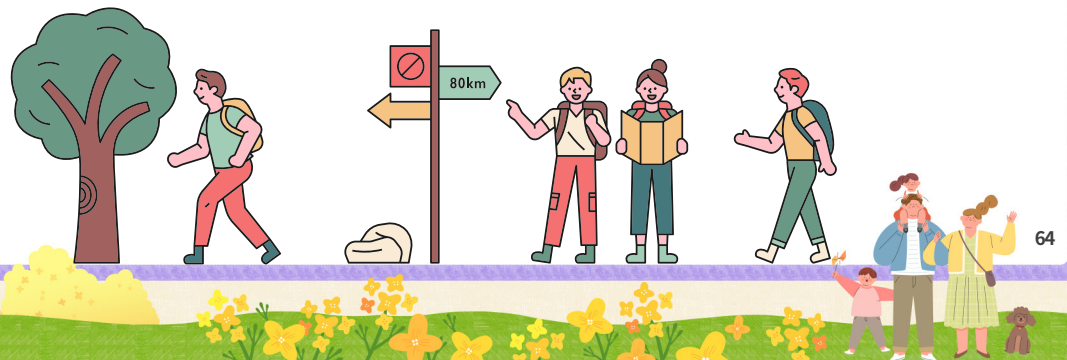
- (3.1) Combining their coursework, “Service Learning” and “Maker Practice Microcredit” offered by the General Education Center, and “Science Practice” by Department of Applied Physics, NUK students are encouraged to popularize science education in the weekend stalls and Science Festival organized by Science and Technology Museum by selling their products. NUK also co-founded Science Education Center with StanShih Foundation of Acer Group to facilitate the expertise of the faculty and students in exploring and implementing the new syllabus for national education.
- (3.2) Holding 20 sessions of teacher training for national education in 2021, on digital measurement assisting scientific experiment exploration and analysis, PM2.5 sensor production, sharing of multiple elective courses, digital optics practice, and practicum, with 419 participants.

- (3.3) Co-holding “The 4th National High School Physics Inquiry and Practice Competition, 2021” with Physics Education Society, ROC and sponsored by StanShih Foundation to organize “Natural Science Literacy Test”, “Practice Test”, Selection of practice reports, final round of debates and contest of posters. There are 5 competitions and 6 judge meetings.

- ③ Establish EDUPower label, cooperate with ASE Cultural & Educational Foundation to assist the primary schools in remote areas, and implement ESG: The New Energy & Electricity Development Center, NUK has created EDUPower label to add value to the energy produced by renewable energy equipment, and founded EDUPower Fund, Taiwan to subsidize three remote schools in Kaohsiung City to contribute the entrepreneurs’ sustainable action to national education and support primary and secondary schools to promote SDGs education.
- ④ The General Education Center connects various departments with different expertise in service learning to augment the student participation in local affairs:

Guided by the faculty of the General Education Center, the students in Service Learning courses have served to Yuan-zhong Port Community. After 3 years, the mutual efforts of NUK and the community have achieved significant success. In 2019, the community proposed to preserve communal culture through murals. NUK and the Community Development Association then called for and selected design submissions. The students executed the project. In January 2021, a guided tour was held, the students and teachers from Yuan-zhong Primary School and the residents were invited to learn the history and stories behind the murals. Five murals are: “Introducing Yuan-zhong Wetland”, “Images of Abundant Agricultural and Fishing Harvests”, “Introducing Bamboo House, Sunset of Feng-shan and Qing Scenic Poetry”, “Ancient Place Names of Yuan-zhong Port” and “Yuan-zhong Port Industry and Fish-counting Song”.

- ⑤ Connect the courses of the General Education Center to find solutions through design thinking or interdisciplinary exchanges and cooperation



- ① By integrating the courses of Service Learning, Social Design and Project Planning, Lot Literature and Temple Culture, and Field Study, and using Er-a-liao Community, Yuan-zhong Port Community as practice fields, the students observe and study the topics of development. In 2021, they held a seminar, “NUK and Er-a-liao Community’s Cooperation of Developing Local Culture”, and invited three administrative chiefs from Li-er, Zhi-er, and Xin-er, and the director of the Community Development Association, Er-a-liao Culture Association, Li-zhu Charity Society and the director of Social Affairs Dept of Zhi-guan District Office to discuss their joint endeavor.
- ② Cooperate with Yuan-zhong Port Community Development Association to organize cross-generational study group to develop the integration of different age groups, and community learning projects. In 2021, two sessions were held with 30 participants.
- ③ Set up NUK community service team, and recruit 24 students in 2021 to digitize and visualize cultural and historical materials, produce virtual community guide and holographic recording to assist the community members to develop local culture.

Seminar on co-developing local culture, Er-a-liao



Yuan-zhong Port mural



- ④ Take the campus as the starting point of the social practice field, through the teacher-student co-learning and competitive scheme, teach students to care about the surrounding environment and increase their sense of campus identity.
  - ① In 2021, 6 groups of faculty and students studied together, working on different topics, e.g. multi-language communication, food safety, the application of programming language, drawing and editing popular science animation micro-movies, and sustainable buildings in Kaohsiung City. Some of them developed the license plate recognition system for the underground parking in Science College to create a smart campus. In addition, some took plastic pollution as the topic and combined AR technology to create educational board games to convey the concept of environmental protection.
  - ② Take NUK ecological features to train community elders as environmental volunteers. In 2021, 135 people took part in training, and the number of volunteers increased to 68. They helped to build butterfly trails and develop environmental sustainability.

### 5-1.5 A New Model of Cooperation among University, National Education and Local Industry

- ① Establish a local education action alliance to assist national education in promoting diversified curricular.
  - ① Schools in cooperation increased from 3 to 30: In 2014, based on the high-quality high school plan and science experiment classes, NUK established educational partnerships with neighboring high schools and offered scientific hand-on courses.
  - ② In response to the 108 new syllabuses, starting from 2020, NUK has formed a teaching alliance with high schools and universities in Kaohsiung to integrate resources to help set up distinctive and diverse elective courses and solve the problem of insufficient choices in high schools.
    1. In 2020, NUK formed a flexible learning alliance with 5 high schools and 4 universities. In response to the requirement of flexible learning assigned by the high school 108 New Syllabuses, in 2021, 15 courses were offered, including “Introduction to Law”, “Exploring Economics”, “Finance”, and “Genetic Engineering” to develop literacy and practical skills through hands-on learning.



- In 2021, NUK launched "Prerequisite Curriculum of Semiconductor Digital Industry" with 7 vocational high schools in Kaohsiung Zuo-ying and Nan-zi areas. 5 faculty members with expertise in semiconductor and digital industry developed courses with local advantages to build the foundation of Kaohsiung's digital and semiconductor industry. The courses include "Introduction to Semiconductor Laser", "Semiconductor Manufacturing and Packaging Technology", "Vacuum Technology", "Semiconductor Process and Measurement", "Introduction to Semiconductor Engineering", and "Introduction to Semiconductor Process Technology". This is to cultivate local talents for semiconductor and digital industry, and promote NUK's professional profile.
- In response to the 108 New Syllabuses, to promote the curriculum of "Natural Science Inquiry and Practice", NUK students have been trained as seed teachers for science competitions and teacher training camps. In 2021, 12 students worked as speakers and coaches in "Activity Planning", "3D Modeling", "Digital Microcontroller Pin Soldering", and "Arduino UNO". They also helped to improve learners' capacity to use software.

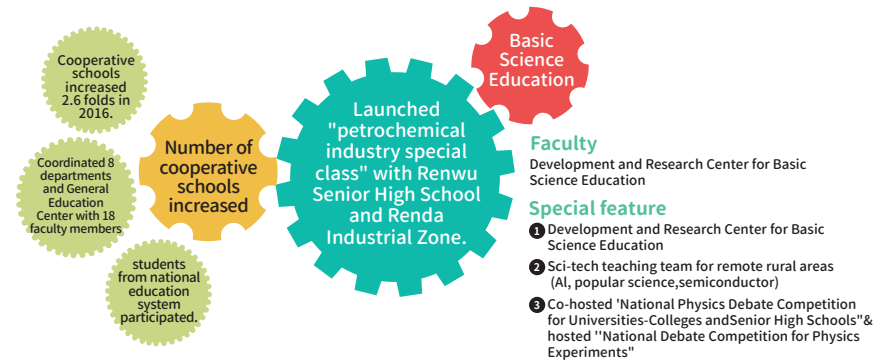
## 2 Assist the local high schools and Renda Industrial Zone to promote the petrochemical industry special class to promote local schooling and employment

Based on the experience and foundation of setting up high school courses in the past, starting from 2018, NUK has further assisted Renwu Senior High School to launch "Petrochemical Industry College Class" and developed school-based specialty courses gleaned from local advantages. NUK is the designated university for industry-university cooperation in the Renda Industrial Zone. A total of 15 basic courses in the petrochemical industry were offered in 2021, with 422 participants.

Special class with high schools and industry



## NUK's cooperative results with national education



## 3 Reverse rural education with science and technology, and deepen the education of local national education and popular science education

- Organize faculty and students to hold popular science education camps through the subsidy of Sprout Projects: In 2021, NUK held 10 theme camps, among which 5 were held on line, including basketball, culture, science exhibition summer training, chess, high school English, and English for primary school. It also targeted at senior high school students from the new resident family to hold online co-learning camps on Vietnamese, Indonesian, and chemical experiments. In total, 455 students from different primary, junior and senior high schools participated.

## 2 NUK students strive to help school children in national education and practice social service:

Since the establishment of "Digital Learning Partner Program" in 2015, NUK students, both undergraduate and graduate, have been recruited and trained as "big" learning partners. Taking internet and online learning platforms, they help and accompany the school children (little learning partners) from remote areas to learn, motivate and inspire them, and enhance equal learning opportunities. At the same time, they also learn about self-management, social service, moral virtues and care in the digital environment. In 2021, they helped 7 primary schools with 1,756 participants. Based on their long-term dedication, 3 big partners were awarded as "Outstanding Class Teacher" and "Outstanding Big Learning Partner" among 2,600 contestants nationwide.



- ③ The only digital learning partners extending their service to high school nationwide: Among the universities implementing digital learning partnership program nationwide, NUK is the only one that extends its service to senior high school students. It aims to help those high school students who live away from home with their school work, to adjust in life, and to learn by themselves. In 2021, 96 online and 3 physical tutoring sessions were held to build rapport between partners.

#### Digital Learning Partner Program: Nice to meet you



- ④ Develop flexible curriculum through Interdisciplinary cooperation for non-urban senior high schools: In compliance with 108 New Syllabuses, to assist non-urban senior high schools, 2 flexible courses on law were offered to motivate students to learn about law and solve the shortage of their flexible courses.

## 5-2 Improve the Publicness of Higher Education: Design for Educational Equality

Taiwan is a multi-cultural immigrant society. It cares about the equal opportunity of education for economically underprivileged and indigenous students. Particularly after popularization of higher education, universities should respond to the social expectation for equal opportunity although facing the pressure to raise funds. They should improve accountability and guarantee quality in order to respond to the stakeholders and make up the difficulty of raising funds, especially for young schools. NUK has set up University Affairs Development Office and Indigenous Student Resource Center, but more basic data need building in order to meet the social expectation.

### 5-2.1 Expand the Recruitment Channels for Underprivileged Students and Optimize Learning Guidance

#### ① Improve various guidance mechanisms for underprivileged students

- ① In order to improve the effectiveness of tutoring and counselling, NUK offered Study Grants, Internship Grants, Licensing and Certification Awards, Activity Incentive, Competition Incentive and Dream Awards between 2018 and 2019. The six major grants continue to be optimized. The participating students increased from 20.19% in 2018 to 28.54% in 2020. In 2021, due to the pandemic, the participants decreased to 22.93%.

Chart of "Number of economically underprivileged students participating in counseling"

Year	No. economically underprivileged	No. participants	No. participants	Participation ratio
2019	567	225	125	22.04%
2020	578	302	165	28.54%
2021	567	242	130	22.93%



- ② Since spring 2018, NUK has provided guidance for LeXue Learning Program for the economically underprivileged students. It provides independent study time called LeXue Study Club, and introduces the purchase of working hours to increase the motivation of learning. The faculty-staff will stay with them. The space for study is made comfortable to establish a good learning environment

Chart of "Tutoring for economically underprivileged students"

Year	No. participants	No. economically underprivileged (undergraduate)	Participation ratio
2019	158	488	32.37%
2020	182	551	32.85%
2021	162	545	29.72%

- ③ In 2018, the "Activity Incentive" was formulated to encourage the economically or culturally underprivileged students to participate in extracurricular activities. The number of club leaders increased from 10.7% to 12.66% school-wide.

Chart of "Number of economically underprivileged students serving as club leaders"

Year	No. Club leader	No. NUK clubs	Ratio NUK clubs	Ratio financially underprivileged in NUK
2019	14	88	15.9%	9.85%
2020	10	79	12.66%	10.01%
2021	10	74	13.51%	9.31%

- ④ In 2019, the "Competition Incentive" was formulated. At the same time, an event planning competition was held to encourage students with economic or cultural disadvantages to serve as general event coordinator, and to write a proposal to find resources. NUK then provided corresponding subsidies based on the merits of the review. Advisors provided guidance, and the number of students serving as general event coordinator increased from 4 to 14. In 2020, due to pandemic, many activities were cancelled and influenced the number of students joining the coordinatorship.

Chart of "Number of students with economically or culturally underprivileged students serving as general event coordinator in large-scale events"

Year	No. economically or culturally underprivileged	No. economically or culturally underprivileged as general coordinator	Ratio
2018	673	13	1.93%
2019	775	14	1.80%
2020	760	1	0.13%

- ⑤ In order to improve the indigenous students' soft power for employment and to consolidate their heritage, the University opened indigenous language courses. Amis, Paiwan, and Bunun languages were selected through voting surveys. At the same time, the students were encouraged to participate in language proficiency tests. In 2021, many tests were cancelled due to the pandemic, and therefore the percentage of test-taking decreased.

Chart of "Number of students with economic or cultural disadvantages in obtaining licenses"

Year	No. obtaining license	No. license	Ratio dept major license	Ratio interdisciplinary license	Ratio passing language proficiency test
2019	20	25	72%	16%	36%
2020	11	13	30.76%	69.23%	23.07%
2021	9	7	71.42%	28.57%	0%

## 2 The sustainable development fund for underprivileged students

- ① In order to effectively benefit the economically underprivileged students, NUK Secretariat put forward the "Angel 500 Student Aid Program" in 2018, actively seeking resources from society. Since 2018, \$3,563,301 has been raised (including Enterprise Empowerment, Emergency Fund, Mr. Wu-tong Chen Scholarship, Fly-on Program, Special Needs Scholarship in Physics Dept., Tze Lian Social Welfare Foundation Scholarship).

② In order to encourage enterprises to support the underprivileged students and initiate a feedback system, the Students Affairs Office put forward "Enterprise Support Underprivileged Talent Award Program" in 2018 and successfully raised NT\$200,000 from enterprises. 5 scholarships are provided every semester. At the same time, with help from the University, the students performed well and delivered positive feedbacks. The results have won continuous yearly support of NT\$200,000 from the donors for 5 years.

③ NUK organized the underprivileged students to raise and secure scholarships for themselves and those who need help by selling handmade biscuits. From production, packaging, promotion to sales, the students worked on their own, reached out to local communities, and learned business strategies. 15 charity sales were organized from 2019 to 2021, part of the income was paid to the participating students, and the rest was donated to NUK special fund for the economically underprivileged students.

In 2018, ASCENTEX Industry Corporation donated NT\$200,000 for scholarships and stipends. It will continue to sponsor 5 economically underprivileged students until they graduated. In order to enable the students to receive continuous corporate patronage, the Students Affairs office compiled every student's story, their outstanding learning performance and testimonials into a book for ASCENTEX in appreciation of their contributions in hope that it will continue its support for the students.

### 5-2.2 Expand Exchange Among the Students of New Residents

① Promote co-learning of NUK students and the second generation of new residents

① NUK-New Resident High School Student Camp: A total of 27 high school students, including 17 students of Vietnamese origin and 10 interested in new resident culture, studied together with NUK students. The activity included Vietnamese language and chemical experiment courses, visits to the Taipei City Service Station of the Immigration Bureau of the Ministry of the Interior and the Vietnam Office in Taiwan, so that students can better understand the new residents and their children's training programs and care services. It also encouraged them to seek their identity and set future goals.

② Seminar on resources for new residents or their children in New Southbound Policy: University and high school students of new residents in the area south of Chiayi are invited to learn about development projects and care services, and training plans covered by New Southbound Policy for new residents to motivate their children.

2nd generation of new residents co-learning camp; learning Indonesian and Vietnamese to experience university social responsibility



③ "My New Resident Parents" short film competition: Through film-making, new residents' Taiwan-born children interview their parents and better understand them in order to identify themselves with their culture.

② "I Am Who I Am" Self-Confidence Project: Establish a club for students of the 2nd generation of new residents, and form an alliance with the Kaohsiung New Residents Family Service Center to provide learning resources for the new residents and their children; at the same time invite the students' parents to share their home culture, and consolidate their emotional bonds, cultural identity and expertise.



### 5-2.3 Links with University Social Responsibility and NUK Entrepreneurial Alumni

Through consultation, NUK assisted 12 entrepreneurial teams to obtain the first-stage subsidies of the U-Start Innovation and Entrepreneurship Program of MOE. Among them, 2 teams won the recognition as the second-stage excellent team and received entrepreneurial bonuses. In order to strengthen the relationship between alumni and the students who intend to start a business, the University actively links the faculty and alumni who have already started businesses to build a consulting network for the students to learn the entrepreneurial knowledge and practical experience, and in the long term, to expand the network of entrepreneurs.

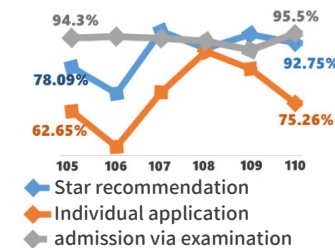
Statistics of winners of U-Start Innovation and Entrepreneurship Programs, MOE

Year	Team	Alumnus	Winning Info	
			1st stage	2nd stage
2019	INFINITE	Traditional Craft and Creative Design	NT\$500,000 subsidy	Nil
	Symbiosis	Traditional Craft and Creative Design	NT\$500,000 subsidy	NT\$400,000 reward
2020	Mobile Village	Traditional Craft and Creative Design	NT\$500,000 subsidy	NT\$250,000 reward
2021	Shopen		NT\$500,000 subsidy	

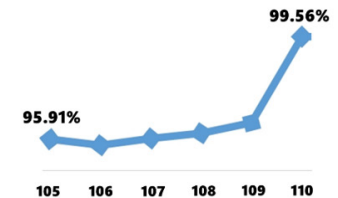
### 5-2.4 Implement Self-Accountability of Higher Education

- 1 Improve the recruitment strategy and adjust admission ratio. In 2021, the students from Star Plan topped the enrollment.
  - ① Establish a system for predicting students' enrollment quality, assist the University to test the best available subjects, and effectively increase recruitment.
  - ② Increase the enrollment rate of selected admissions: The number of Stars recommended in 2017-2021 increased from 78.09% to 92.75%; the individual applications increased from 62.65% in 2017 to 75.26% in 2021.

Ratio of Star/Individual Enrollment



Ratio of Freshmen enrollment



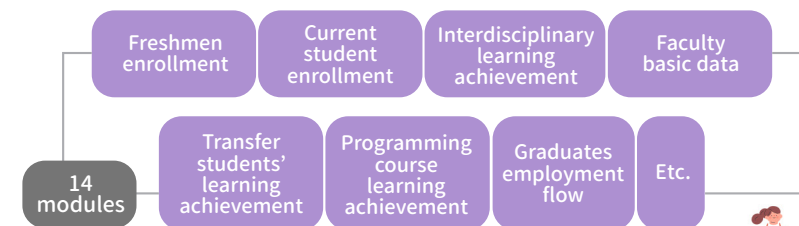
- 2 Establish and maintain the University Affairs Development database, and insure data transparency:

- ① In 2019-2021, NUK adopted the data warehouse structure to integrate qualitative data from different offices, which includes: student status, learning history, graduates flow, UCAN investigation, faculty's basic information, course evaluation, freshman enrollment ratio and dropout students nationwide. The total number of 14 modules are used as basis of data analysis to manage the school affairs.

University Development Database



University Development Database



- ② In 2021, the 14 modules of the University Affairs Development database were updated and verified. The original data collected, including faculty ranking, student origin, category of the underprivileged student subsidy and the culturally underprivileged, were updated to 2020. It also optimized the automatic data cleaning program, and linked the relevant data tables to match the practical application of the university affairs decision-making.
- ③ Dashboard analysis module: The normal and non-confidential university development data are available on the public platform <https://oir.nuk.edu.tw/> for inquiry, including the registration rate in different programs, the number of current students, admission channels, and the ratio of faculty and students. Massive personal data are deployed to analyze the school achievements and talent cultivation. There are 7 topics including the interdisciplinary students' academic performance, UCAN function development and employment analysis, transfer students' academic performance, program courses and students' employability, NUK students' employability, students' non-academic performance, international student exchanges, and comparative analysis of undergraduate dropouts. NUK first-rank officers and department chairs can log in the administrative system for reference for empirical research and performance management.
- ④ Establish a school affairs research database with de-identified data for use by faculty and administrative offices: The data handled and stored by the University Affairs Research Office mostly involve the personal data of faculty and students, which is an important asset of the school. In addition to signing confidentiality agreements, all the information provided to the outside of the IR office is de-identified to fulfill the responsibility of personal information security protection.
- ⑤ Implement data transparency: A special webpage of "University Affairs Open Data" is installed in the University homepage including University organizations, basic data, special features and development vision, achievements and performance, finance, adjustment and planning of tuitions and fees reviews, procurement and important assets. The information is regularly updated to implement data transparency. See: <https://opendata.nuk.edu.tw/app/index.php>

### ③ A goal-oriented school affairs research project to promote a case-based school management system

- ① University Affairs Development Office and the offices at all levels jointly plan and implement topics for their respective business, provide references for making decisions that meet practical needs, and implement the governance structure. In 2021, 5 development projects are proposed, of which 2 are faculty cooperation projects, and 3 by business offices are for necessary analysis.
- ② Analyze the faculty's research capacity results to provide for planning development: The research activities have been slowing down. In the past 5 years, each person presided over an average of 2.24 MOST projects, 0.81 projects from the government and enterprises, and 0.32 from other institutions, in which the best research capacity was presented by professor-level faculty.

Faculty rank & No. of presiding project

Rank	MOST project		Non-MOST project			
	average	Total	Government	Enterprise	Others	Total
Full prof.	3.19	367	1.31	1.27	0.49	353
Associate prof.	1.41	103	0.34	0.32	0.21	63
Assistant prof.	0.76	25	0.06	0.27	--	11
Total	2.24	495	0.81	0.81	0.32	427

- ① Track the learning outcomes of those who completed school-level courses, and applied for double major or minor, took courses in IF School but did not drop out over the years.
  1. Observations of the enrolled students who took interdisciplinary courses in 2015-2020 show Engineering College has the highest ratio, 5.88%, followed by Humanities and Social Sciences, 4.21%, and the lowest, Law at 0.33%.
  2. On the whole, students who take interdisciplinary courses have better academic performance than those who do not.

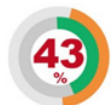


Enrolled student's academic performance 2015-2020

Required course grade	Required course grade			Failing grade		
	Average	Median	standard deviation	Average	Median	standard deviation
Interdisciplinary	81.41	82.89	8.99	3.94	3	0.99
Non-interdisciplinary	75.98	78.50	13.54	6.21	5	3.33

4 The flow of graduates and employer satisfaction surveys help the University plan school affairs and departmental development:

- ① Regarding the survey data collection on the flow of graduates, the effective samples collected in the past 4 years (2018-2021) maintained an average of about 2,400, except in 2020, many rejected the survey due to the pandemic, and 2200 were collected. The survey recovery rates for the 1, 3, and 5 years of graduation in 2021 are 70.70%, 56.16%, and 52.83% respectively. The results show that in recent years, the employment and advancement status of graduates are both around 43%, and the proportion of advanced study is slightly higher by 1 to 2%.
1. Compared with the salary of one year after graduation of college graduates in 2017, the growth rate was 5.04%-19.6%. Compared with the average salary of 5 years after graduation in 2015 with the average salary of 3 years after graduation in the same year, it shows that the average salary and growth rate of the alumni of Science College within 3 years is the highest in the five colleges
2. It reveals on the basis of one year after graduation that the salary of those with a master's degree is NT\$15,000 higher than those with an undergraduate degree.
3. Talent retention rate: The talent retention rate in the first and three years after graduation from 2014 to 2019 increased from 29.22% to 39.41%.



Average of undergraduate graduates' employment and continuous study in recent 3 years



Satisfaction rate Willingness to hire

Graduates and employer satisfaction surveys

- ② Employer satisfaction survey results: The employer's satisfaction with NUK alumni reached 84.37%, and the willingness to hire them 86.42%. In addition to professional skills, the key factor for hiring the NUK alumni is the communicative skills in interviews. These employers would like to see more training on broad knowledge, innovation and multi-tasking skills.

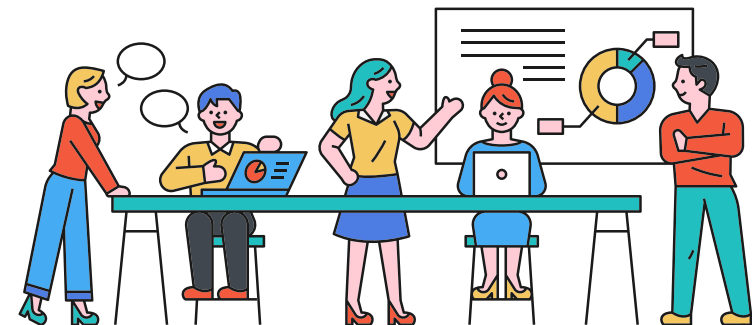
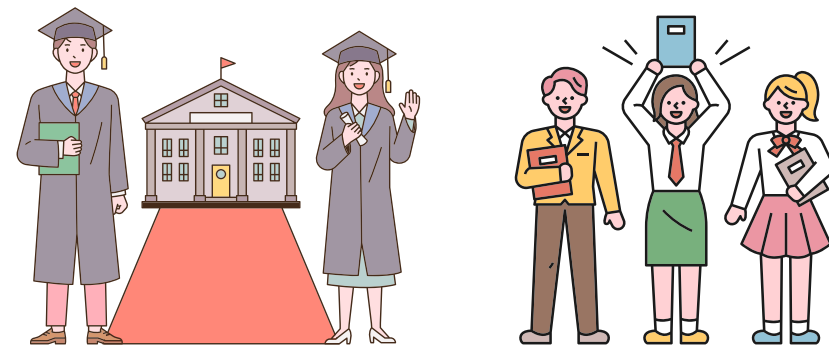
5 Adjust career counselling resources according to students' talents to enhance employment competitiveness

- ① Analyze the employment rate of the general students and the economically and culturally underprivileged students. The results of the graduation flow survey in 2019 and 2020 show that the full-time employment rate for the economically and culturally underprivileged students is at 44.30%, higher than the non-economically and non-culturally underprivileged a year after graduation.
- ② In order to strengthen the employment competitiveness of indigenous students and assist them to return to work in their hometowns through the special examination of engineering, NUK set up "National Examination Common Subject Remedial Class" for them in 2020 to help them successfully obtain public positions.
- ③ In order to take "Special Examination of Indigenes", those who take the exam have to hold an indigenous language proficiency certification. After surveying the number and willingness of people, indigenous language courses are offered.
- ④ College of Management and 104 Manpower Bank jointly planned "Enterprise Quality Talent Training Course (TOP)" to encourage students to participate in training courses and activities, analyze the changes of required skills in workplace, understand the trend and competition in current and post-pandemic industry, explore and cultivate their interdisciplinary aptitudes and skills, and master the direction of career development. The course is led by a professional manager of a company to apply classroom knowledge to workplace. In 2021, companies including Sinyi Realty, Jet-Go Consulting Group, Wunderman Thompson, FCF, Bank SinoPac, and OSE were matched to offer internships to the students. At the same time, the College and 104 Manpower Bank which has many connections with business jointly held activities. Approximately 160 instructors and students participated, and 50 students completed the TOP Course.

**6 Adjust vocational assistance resources according to students' characteristics to enhance employment competitiveness**

- ① Analyze the employment rate of the general, and the economically and culturally underprivileged undergraduate students. The results of the graduation flow survey in 2019 and 2020 show that the full-time employment rate for the economically and culturally underprivileged students is at 44.30%, higher than the non-economically and non-culturally underprivileged a year after graduation.
- ② In order to strengthen the employment competitiveness of indigenous students and assist them to return to work in their hometowns through the special examination of engineering, NUK set up "National Examination Common Subject Remedial Class" for them in 2020 to help them successfully obtain public positions.
- ③ In order to take "Special Examination of Indigenes", those who take the exam have to hold an indigenous language proficiency certification. After surveying the number and willingness of people, indigenous language courses are offered.
- ④ To promote students' employment competitiveness and provide vocational training for the non-economically and non-culturally underprivileged, "TQC Excel Advanced Professional Certificate Course" is offered to develop students' clerical skills.
- ⑤ To assist students with career planning and explore the goals of career development, "Career Exploration Workshop – Future Lab" is held to help them find directions, improve resumes, practice mock interviews and receive advice for advanced study.
- ⑥ In order to cultivate students' all-round employability, "Planning Personnel Development Workshop" is set up to train students in planning concepts, writing a proposal, proposal presentation, and plan implementation.
- ⑦ In response to the rise of Slash Generation, many students are interested in starting a business. In order to guide the students on their journey and assess their suitability as the starting point, a series of courses on "All about Entrepreneurship" are offered, and business managers in different fields are invited to share their experiences to help students understand the details of entrepreneurship, enhance their knowledge, guide them to consider the feasibility of their intentions, and help them prepare for their plans.

- ⑧ College of Management and 104 Manpower Bank jointly planned "Enterprise Quality Talent Training Course (TOP)". This is the first cooperation model in the country. 104 Manpower Bank provides employers' recruitment data, and the College analyzes the changes of required skills in workplace, understand the trend and competition in current and post-pandemic industry. The setup is to encourage students to participate in training courses and activities, explore and cultivate their interdisciplinary aptitudes and skills, and master the direction of career development. In 2021, companies including Sinyi Realty, Jet-Go Consulting Group, Wunderman Thompson, FCF, Bank SinoPac, and OSE were matched to offer internships to students. At the same time, the College and 104 Manpower Bank which has many connections with business jointly held activities. Approximately 160 instructors and students participated, and 50 students completed the TOP course.







By Royal Charter

## GRI CHECK INDEPENDENT OPIONION STATEMENT

### 2021 National University of Kaohsiung Sustainability Report

The British Standards Institution is independent to National University of Kaohsiung (hereafter referred to as NUK in this statement) and has no financial interest in the operation of NUK other than for the GRI Check of this report.

This statement has been prepared for NUK only for the purposes of GRI Standards Check relating to its sustainability report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent opinion statement may be read.

This statement is prepared on the basis of review by the British Standards Institution of information presented to it by NUK. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete.

Any queries that may arise by virtue of this independent opinion statement or matters relating to it should be addressed to NUK only.

### Scope

The scope of engagement agreed upon with National University of Kaohsiung includes the check of the extent of 2021 National University of Kaohsiung Sustainability Report is adherence to GRI Standards: Core option is conducted in accordance with GRI Standards, however, the data disclosed in the report is not verified through the GRI Check process.

### Opinion Statement

We conclude that 2021 National University of Kaohsiung Sustainability Report Review provides a fair view of the NUK sustainability programmes and performances during 2021 year.

A team of sustainability report assurers in accordance with GRI Standards carried out our work. We planned and performed this part of our work to obtain the necessary information and explanations. We conclude that NUK provided sufficient evidence to satisfy the description of their approach and their self-declaration of in accordance with GRI Standards: Core option was fairly stated.

### GRI Sustainability Reporting Standards (GRI Standards)

NUK provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the NUK's sustainability topics.

### Materiality

The NUK publishes information completely with materiality analysis that enables its stakeholders to make informed judgments about the NUK's management and performance. In our professional opinion the report covers the NUK's material topics.

### Stakeholder Inclusivity

In this report, it reflects that NUK has made a commitment to its stakeholders, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the NUK's inclusivity topics.

### Sustainability context

The report presents the NUK's performance in the wider context of sustainability.

### Completeness

Coverage of the material topics and their boundaries should be sufficient to reflect significant economic, environmental and social impacts and enable stakeholders to assess the reporting NUK's performance in the reporting period; in our professional opinion the report covers the NUK's Completeness.

### Responsibility

The sustainability report is the responsibility of the NUK's Chairman. Our responsibility is to provide an independent opinion statement to stakeholders giving our professional opinion based on the scope described.

### Competency and Independence

BSI is a leading global standards and assessment body founded in 1901. The GRI Check team was composed of Lead Auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, GRI Standards, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. The GRI Check is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan

Statement No: SRA-TW-2021109  
2022-06-22

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## Corresponding Chapters with GRI Standards 2016










GRI Standards	No.	Disclosure item	Corresponding chapter	page	Goal UN Sustainable Development Goals
GRI 102 General disclosure 2016	<b>Organizational Profile</b>				
	102-1	Name of the organization	1-1 History	4	-
	102-2	Activities, brands, products, and services	1-1 History	4	-
	102-3	Location of the headquarters	1-1 History	4	-
	102-4	Location of operations	1-1 History	4	-
	102-5	Ownership and legal form	1-2.1 University Organization	7	-
	102-6	Market served	1-1 History	4	-
	102-7	Scale of organization	1-2.2 Human resource Management	8	-
	102-8	Information on employees and other workers	1-2.2 Human resource Management	8	-
	102-9	Supply chain	2-3 Vendor management operations	20	-
	102-10	Significant changes to the organization and its supply chain	1-2.1 University Organization	7	-
	102-11	Precautionary principle or approach	2-2 Risk analysis 4-5 Sustainable Campus Management	19 57	-
	102-12	External initiative	2-4.1 Stakeholder engagement	21	-
	102-13	Membership of associations	2-4.1 Stakeholder engagement	21	-
















GRI Standards	No.	Disclosure item	Corresponding chapter	page	Goal UN Sustainable Development Goals
GRI 102 General disclosure 2016	<b>Strategy</b>				
	102-14	Statement from senior decision-maker	President's statement	3	-
	<b>Ethics and integrity</b>				
	102-16	Values, principles, standards and norms of behavior	3-5 Academic ethics	34	-
	<b>Governance</b>				
	102-18	Governance structure	1-2.1 University Organization	7	-
	<b>Stakeholder engagement</b>				
	102-40	List of stakeholder groups	2-4.1 Stakeholder engagement	21	-
	102-41	Collective bargaining agreements	No Collective bargaining agreements		-
	102-42	Identifying and selecting stakeholders	2-4.1 Stakeholder engagement	21	-
	102-43	Approach to stakeholder engagement	2-4.3 Major topics ranking and boundary analysis	25	-
	102-44	Key topics and concerns raised	2-4.3 Major topics ranking and boundary analysis	25	-
GRI 102 General disclosure 2016	<b>Reporting practice</b>				
	102-45	Entities included in the consolidated financial statements	1-3.1 Financial management	12	-
	102-46	Defining report content and topic boundaries	2-4.2 Defining major topic	24	-
	102-47	List of material topics	2-4.3 Major topics ranking and boundary analysis	25	-
	102-48	Restatements of information	Any significant change of information will be revised by the editorial board.		
	102-49	Changes in reporting	Any significant change of information will be revised by the editorial board.		
	102-50	Reporting period	About the Report	2	-
	102-51	Date of most recent report	About the Report	2	-
	102-52	Reporting cycle	About the Report	2	-
	102-53	Contact point for questions regarding the report	About the Report	2	-
	102-54	Claims of reporting in accordance with the GRI Standards	About the Report	2	-
	102-55	GRI content index	2016 GRI Standards Comparison table	74	-
	102-56	External assurance	Certified by British Standards Institution	75	-

GRI Standards	No.	Disclosure item	Corresponding chapter	page	Goal UN Sustainable Development Goals	
<b>GRI 103:2016 Management Approach</b>	103-1	Explanation of the material topics and its boundary	2-4.3 Major topic ranking and boundary analysis	25	-	
	103-2	The management approach and its components	2-4.4 Development strategy and management approach	26	-	
	103-3	Evaluation of the management approach	2-4.4 Development strategy and management approach	26	-	
<b>GRI 201: Economic Performance 2016</b>	201-4	Financial assistance received from government	1-3.1 Financial management	12	-	
<b>GRI 302: Energy 2016</b>	302-3	Energy intensity	4-4.1 energy saving measures	55		9.4
<b>GRI 303: Water 2018</b>	303-1	Interactions with water as a shared resource	4-3.2 Water resources management	47		6.4
	303-2	Management of water discharge-related impacts	4-3.2 Water resources management	47		6.4
	303-3	Water withdrawal	4-3.2 Water resources management	47		6.4
	303-4	Water discharge	4-3.2 Water resources management	47		6.4
	303-5	Water consumption	4-3.2 Water resources management	47		6.4
<b>GRI 305: Emissions 2016</b>	305-2	Energy indirect (Scope 2) GHG emissions	4-4.3 Carbon emissions	56		9.4



GRI Standards	No.	Disclosure item	Corresponding chapter	page	Goal UN Sustainable Development Goals	
<b>GRI 306: Waste 2016</b>	<b>306-1</b>	Water discharge by quality and destination	4-3.2 Water resources management	<b>47</b>		<b>6.4</b>
	<b>306-2</b>	Waste by type and disposal method	4-3.3 Waste management	<b>50</b>		<b>12.5</b>
	<b>306-3</b>	Significant spills	NUK had no significant spills in 2021		 	<b>12.4</b>
	<b>306-4</b>	Transport of hazardous waste	NUK had no transport of hazardous waste in 2021			<b>12.5</b>
	<b>306-5</b>	Water bodies affected by water discharges and/or runoff	4-3.2 Water resource management	<b>47</b>		<b>6.4</b>
<b>GRI 307: Environmental compliance 2016</b>	<b>307-1</b>	Non-compliance with environmental laws and regulations	NUK did not violate any environmental laws and regulations in 2021.			<b>11.6</b>
<b>GRI 401: Employment 2016</b>	<b>401-1</b>	New employee hires and employee turnover	1-2.3 Management of Human resource	<b>9</b>	-	
	<b>401-2</b>	Benefits provided to full-time employees	1-2.3 Management of Human resource	<b>9</b>		<b>8.2</b>
	<b>401-3</b>	Parental leave	1-2.3 Management of Human resource	<b>9</b>		<b>3.7</b>

GRI Standards	No.	Disclosure item	Corresponding chapter	page	UN Sustainable Development Goals
<b>GRI 403: Occupational health and safety 2018</b>	403-1	Workers representation in formal joint management worker health and safety committees	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
	403-3	Workers with high incidence or high risk of diseases related to their occupation	NUK has no high incidence or high risk of diseases related to occupation.		 <b>8.8</b>
	403-4	Worker participation, consultation, and communication on occupational health and safety	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
	403-5	Worker training on occupational health and safety	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
	403-6	Promotion of worker health	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
	403-10	Work-related ill health	4-3.4 Occupational Safety and Health Management	50	 <b>8.8</b>
<b>GRI 404: Training and education 2016</b>	404-1	Average hours of training per year per employee	1-2.3 Management of Human resource	9	 <b>8.5</b>
<b>GRI 405: Diversity and equal opportunity 2016</b>	405-1	Diversity of governance bodies and employees	1-2.3 Management of Human resource	9	 <b>8.5</b>
	405-2	Ratio of basic salary and remuneration of women to men	1-2.3 Management of Human resource	9	 <b>8.5</b>
<b>GRI 406: Non-discrimination 2016</b>	406-1	Incidents of discrimination and corrective actions taken	NUK has no such incident.		 <b>10.3</b>
<b>GRI 411: Rights of Indigenous peoples 2016</b>	411-1	Incidents of violations involving rights of indigenous peoples	NUK has no such incident.		 <b>10.2</b>
<b>GRI 415: Public policy 2016</b>	415-1	Political contributions	No political contribution.		-



## Appendix 2 NUK Self-Defined Topics

Self-defined topic	Topic	Corresponding Chapters	Page	Goal UN Sustainable Development Goals
School achievement	*Teaching quality	3-1 Teaching quality	28	4 QUALITY EDUCATION 4.7
	*School software facilities	3-2 School software facilities	32	4 QUALITY EDUCATION 4.7
	*Quality and Quantity of Academic Research	3-4 Quality and Quantity of Academic Research	33	4 QUALITY EDUCATION 4.7
	*Student Learning Achievement	3-6 Student Learning Achievement	34	4 QUALITY EDUCATION 4.7
	Operation of continuing and extension education	3-8 Operation of continuing and extension education	41	4 QUALITY EDUCATION 4.3
NUK SDGs	*Sustainable Campus Management	4-5 Sustainable Campus Management	57	15 LIFE ON LAND 15.5
	*Campus Safety	4-6 Campus Safety	58	11 SUSTAINABLE CITIES AND COMMUNITIES 11.7
	Environmental education	4-6 Environmental education	59	4 QUALITY EDUCATION 4.7
	SDGs Curriculum and Research	4-1 SDGs Curriculum and Research	44	4 QUALITY EDUCATION 4.7
Social Inclusion	Revitalize community and develop teaching with local features	5-1 Social responsibility and sustainable social concern	51	4 QUALITY EDUCATION 4.7
	Improve the publicness of higher education	5-2 Improve the publicness of higher education	67	4 QUALITY EDUCATION 4.7

# National University of Kaohsiung Sustainability Report 2021

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