

2018



國立高雄大學
National University of Kaohsiung

NUK Sustainability Report



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The Best Millennial University
Ranked 56th in the World.

The Only National University in Taiwan.

About the Report

This Sustainability Report is published by National University of Kaohsiung (abbreviated as NUK below). The report is written for stakeholders to understand our performance presented in the four aspects, institutional management, teaching and administration, campus environment and inclusive society. Moreover, we also present the actions for sustainability and social responsibility issues.



Basis of the Report

The structure of the report is written based on GRI Standards published by Global Reporting Initiative (GRI). The three principles for the organization and disclosure of report are inclusiveness, importance and responsiveness.



Scope of Data Collection

The internal scope is the campus of the university while the external scope is alumni, parents of students, people in the community, enterprises, NGOs. The report covers several aspects, which include “governance”, “teachers and employees”, “students”, “environment” and “society”.



Report Period

The coverage of the content in the report is based on the type of data obtained, but mainly from Jan. 1, 2018 to Dec. 31, 2018. When involving teachers and students, the information was taken from the school year 2016 and 2017, namely, from Aug. 1, 2016 to July 31, 2018. Regarding all the relevant business activities, parts of the data from the past one to three school year or the past one to three years were presented. If the stated qualitative content or qualitative index is not available yet or has special meaning, it is explained with note.



Audit Report

The report is audited by British Standards Institution (BSI), an independent fair third party and complied to the core items and the audit standards in GRI Standards 2016. The independent audit statements from BSI is attached in the appendix of the report.



Report Cycle

The report was published in 2019 and a volume each year.



Contact Information

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Message from the President

The National University of Kaohsiung (NUK) was founded in 2000, which is the only one new comprehensive national university in 21st century in Taiwan, including 5 Colleges, innovative IF-school, 21 Departments, 23 master programs and 3 Ph.D. programs. NUK has been ranked 56th in Times Higher Education "The Best Millennial Universities 2019", which is also the only one Taiwanese national university been listed. The purpose of NUK is not only to take the task of balancing higher education between north and south of Taiwan, but also to lead Kaohsiung pursuing the excellence in higher education. In line with the government's industrial development policy, NUK promotes high technologies and the development of emerging industry, transforms traditional enterprises in Kaohsiung, as well as supports global layout, operation technology and management personnel for Taiwanese businesses.

As a newly established university in 21st century, NUK realizes the importance of its university responsibility for better serving the society. NUK actively promotes the development of college town in Kaohsiung's specific districts, and improves living quality of the community. Through effort and persist continuously, NUK signed the "Talloires Declaration" on June 5, 2004 as the first university in Taiwan to sign the declaration. In 2009, NUK was selected as the role model for the Green University in Taiwan by the Ministry of Education. In 2010, NUK was awarded as one of the "Promote Environmental Protection Meritorious Schools" by the Environmental Protection Administration of Taiwan. In 2011, NUK received the first place of "Water Conservation Award" by the Water Resource Agency. In 2014, NUK earned an excellent award of Water Conservation by the Water Resource Agency.

With the vision of "being an international leading university", NUK not only practices social responsibility of the university, but also unveils the core concept of NUK for higher education as a common good. For the vision of international prestige, NUK



embeds SDGs (Sustainable Development Goals) internally to become NUK's essential DNA and establishes international partnership to cooperate with SDGs. Therefore, we propose "SDGs-Inside" as the core value in the long-term development plan of NUK. Based on the Talloires Declaration and SDGs-Inside policy, we devote NUK to SDG promotion and to create international connection with various partner universities.

We are proud to be recognized in the 2019 University Impact Rankings issued by the British Times Higher Education. This is the first global university ranking based on 17 Sustainable Development Goals. NUK ranked 201-300 in the evaluation of 551 universities in 80 countries around the world, of which SDG 8 "Decent Work and Economic Growth" awarded the 72nd; SDG 11 "Sustainable Cities and Communities" awarded the 94th. The University Impact Rankings opens a new direction of the university performance, which is no longer limited to achievements in the academe. The bigger trend is to look at the impact in a broader level of universities. Indeed, SDGs will become a general consensus on assessing the effect on society, the environment, and partnerships.

As the youngest national university in Taiwan, NUK braves in excellence, innovation and change, and commits to the practice of SDGs. We believe that the spirit of sustainable development lies in "practice" rather than "duplication". We also believe every university has its own style. No matter which characteristic or style, practice is the key to the success of the sustainable campus. NUK's efforts constantly demonstrate that "Sustainability of Taiwan" is promising and achievable in the future.

President

Dr. Shyue-Liang Wang
President of National University of Kaohsiung

Overview of National University of Kaohsiung

1.1 History of the University

NUK established its preparation office approved by Executive Yuan in May, 1997 and was formally established at **700, Kaohsiung University Rd., Nanzih District, Kaohsiung** on Feb. 1, 2000. Students first enrolled at NUK in August of the same year.

The core value of NUK is the student-centered learning. Three objectives of the university are as follows:

1. Providing free academic research environment and cultivating students with broad vision, and humanistic and scientific literacy.
2. Balancing the development of higher education for northern and southern areas, enhancing the humanism and art level in southern areas to facilitate the perfect development for pluralism.
3. Cooperating with the industrial development policy of the government. First, we support the development demands of Southern Taiwan Science Park and the new industries. Second, we enhance the transformation and upgrade of the traditional industries in the larger Kaohsiung area and support the manpower required for global layout of Taiwanese businessman.

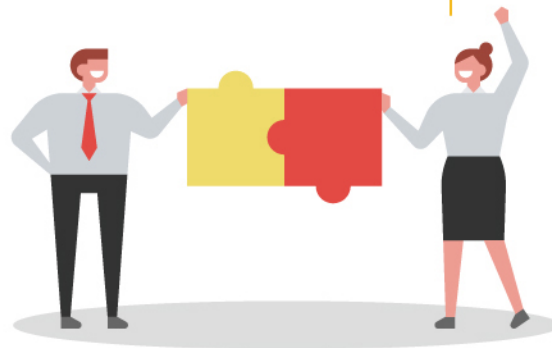
1.1 History of the University

1.2 Organization Structure and Status

- 1.2.1 School Organization
- 1.2.2 Human Resources and Management

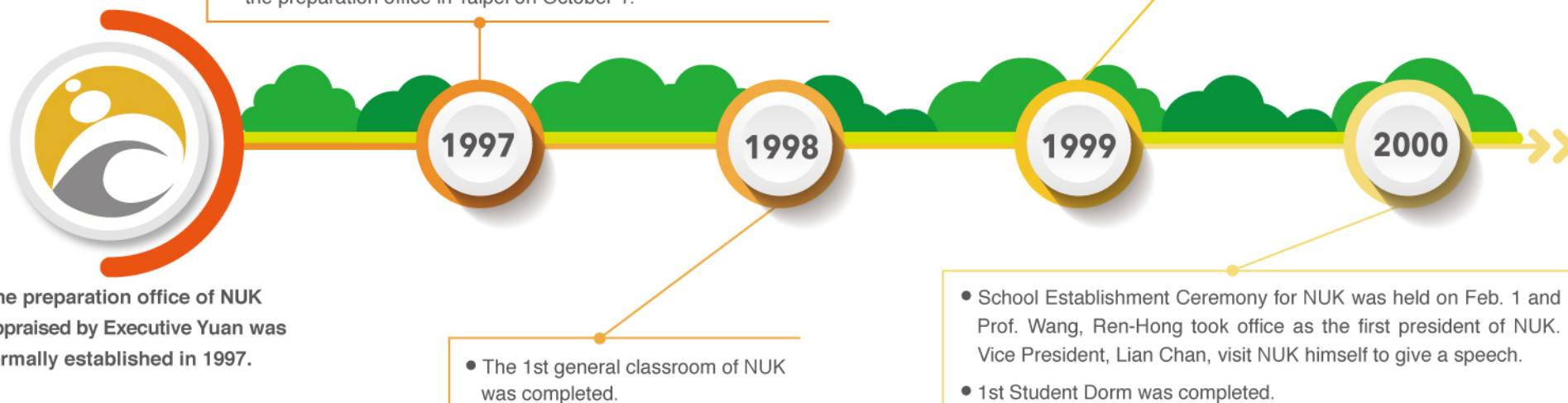
1.3 Financial Status

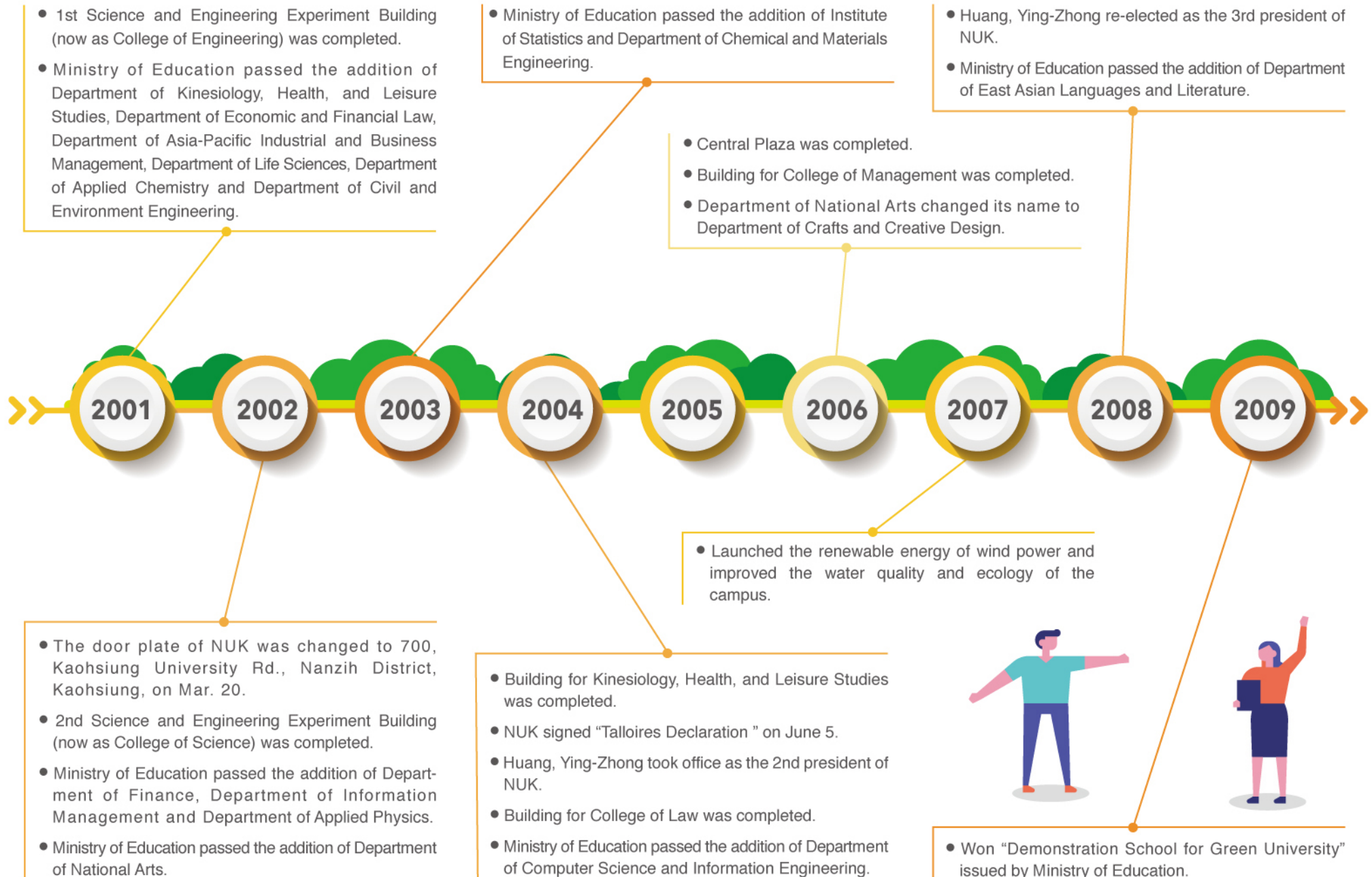
- 1.3.1 Financial Management
- 1.3.2 Financial Risk Assessment

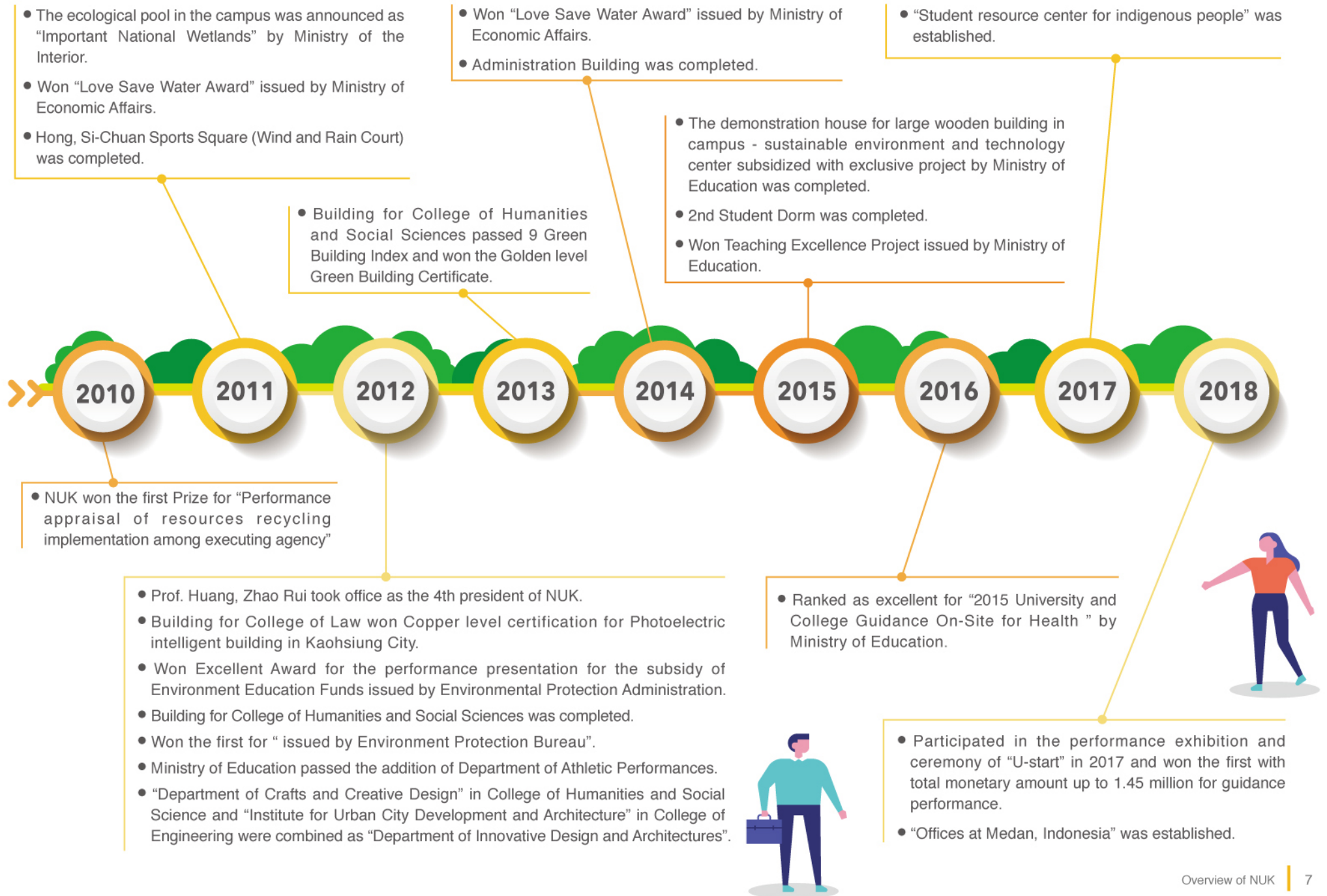




School history





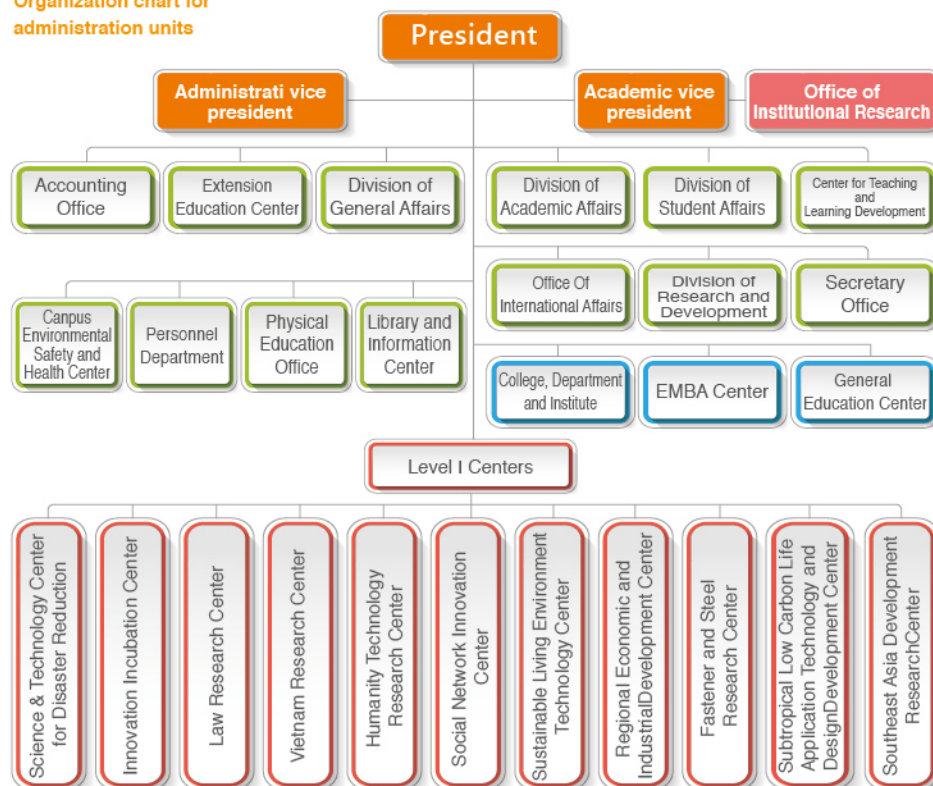


1.2 Organization Structure and Status

1.2.1 School Organization

The administration organization of NUK is established according to the organization regulation of NUK. The recruit for managers is also complied to the regulations. The president is the highest administration manager. Institutional Meeting is the highest governance and decision unit of NUK. Regarding Economic, Environment and Social Topics, NUK establishes NUK University Funds Management Committee, Environment Protection, Safety and Health Committee and University Development Committee additionally as the Committee for decisions.

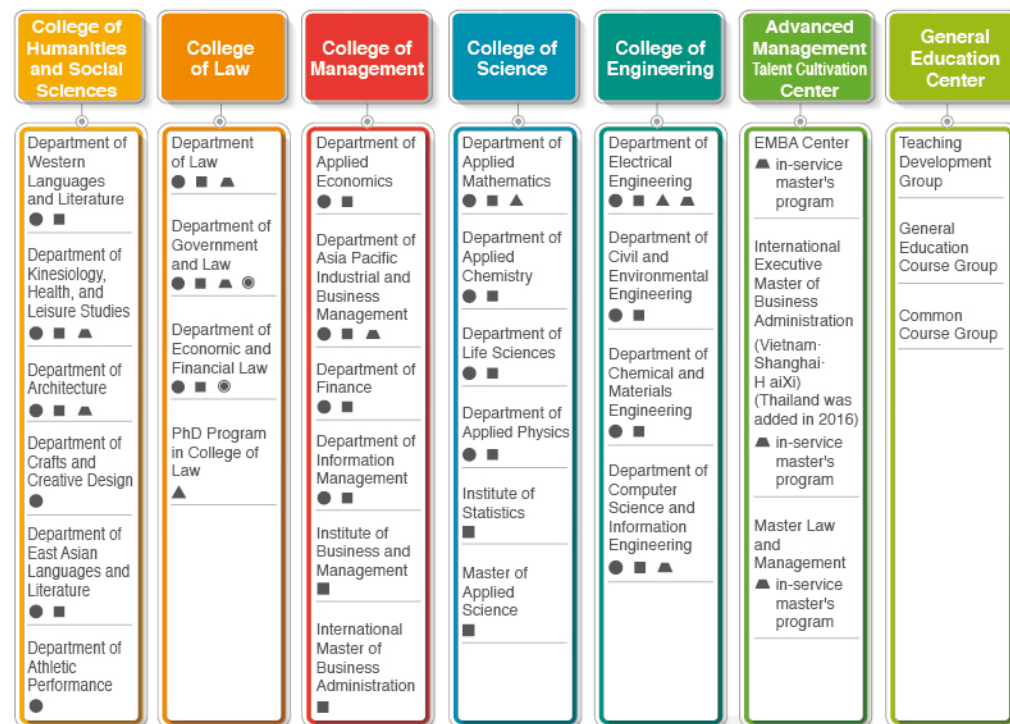
Organization chart for administration units



Major changes on administration organization



Organization chart for academic units



5 colleges / 21 departments / 23 master programs / 3 PhD programs / 2 two-year in-service undergraduate programs / 13 in-service master programs

● Undergraduate program ■ Master program ▲ PhD program ● Two-year in-service undergraduate program ▲ In-service master program

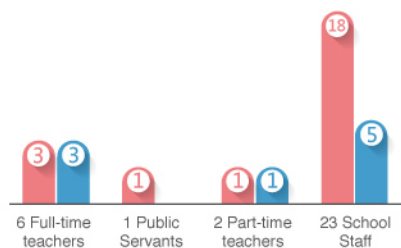
1.2.2 Human Resources and Management

I Manpower configuration and analysis

The recruitment system of NUK holds fair, public and equal principles and adopts "dual-track recruitment system" for teachers and staff. The recruitment of teachers is reviewed according to three level teacher evaluation committee; staff is recruited according to legal procedures.

The formal employees are divided into those applicable to public insurance (including pension funds) and labor insurance (including retirement and resignation savings). They are protected in accordance with Labor Standard Act (school staff) and Civil Servant and Teacher Insurance Act (public servants and teachers) based on their identity type. The reasons for resignation in 2018 are mostly due to retirement, other job opportunities, family factors, career plans, and Contract Expiration. Regarding the position type, they were mostly school staff and most of them resigned due to career plans.

List of new coming rate in 2018



F Total: 23 / Ratio: 11.86%

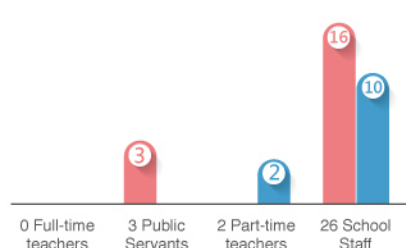
M Total: 9 / Ratio: 3.85%

Tot 32 / Ratio: 7.48%

Remark: -----

New coming rate for each gender
= Newcomers for each gender/total
of people at the end of the year

List of resign rate (full-time employee) in 2018



F Total: 19 / Ratio: 9.79%

M Total: 12 / Ratio: 5.13%

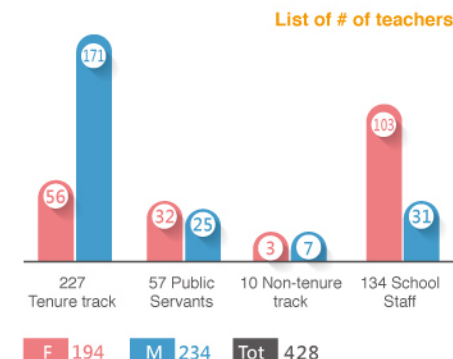
Tot 31 / Ratio: 7.24%

Remark: -----

Resigned rate for each gender
= # of people resigned for each gender/total
of people at the end of the year

(I) Adding manpower in respond to institutional development demands

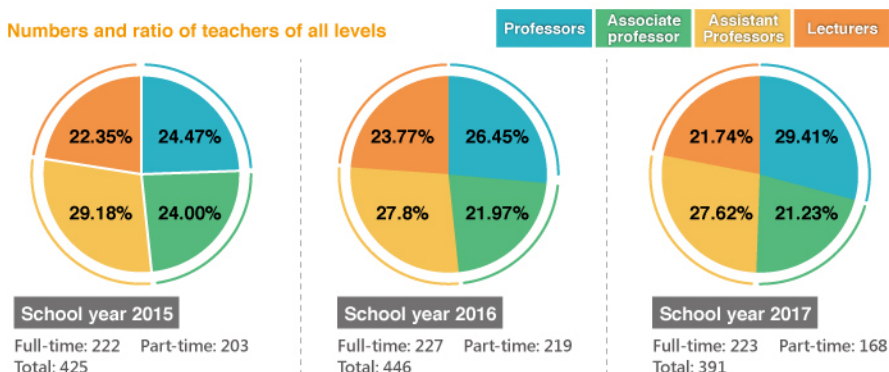
In respond to institutional development demands and course diversities and under the premise of considering effective application of manpower and economizing financial resources, NUK increases the number of school staff by year to promote all kinds of innovative administrative work and recruits full-time and part-time teachers to help with department adjustments, enrichment of courses and strengthen research energy.



(II) The ratio of professors enhanced gradually by year, enhancing teaching and research quality

In respond to teaching and learning demands and enrich the research energy of our school, we encourage teachers to upgrade their level. According to the lists of numbers and ratio of teachers of all levels during the school years 2015 to 2017, ratio of professors enhanced gradually by year and the ratios of assistant professors and lecturers decreased.

Numbers and ratio of teachers of all levels



(III) Teacher-to-student ratio is far lower than the standards stipulated by Ministry of Education, which is benefit to helping student development

For the recent four years, teacher-to-student ratio on average is 19.15 (the upper limit teacher-to-student ratio stipulated by Ministry of Education is 27) and the teacher-to-student ratio of day program is 17.27 (the upper limit teacher-to-student ratio of day program stipulated by Ministry of Education is 23). Hence, our teacher-to-student ratio is far lower than the limit stipulated by Ministry of Education in "Development scale and the standard of resource conditions for colleges".

II Capacity building and empowerment

(I) Promotion and upgrade for teachers and staff

To activate career development for teachers and staff, there were in total 7 teachers and staff applied for internal recruitment in 2018; In addition, starting from 2016, NUK implemented diverse upgrade for teachers while the systems and regulations for teaching practice, research and applied technology practice upgrade have been completed gradually. 3 teachers passed the teaching practice upgrade and applied technology upgrade. In total, 13 full-time teachers passed the upgrade in 2018.

(II) Reward for excellent teachers and staff

To encourage teachers with excellent teaching and recognize their efforts and contributions on teaching, NUK evaluate and select up to 3 teachers for excellent teaching award and up to 1 teacher for innovative teaching each school year among the school. In principle, NT\$ 30,000 was given per person. For staff part, starting from 2018, 12 excellent school staff will be elected each year and given NT\$ 20,000 per person.

(III) Implementation of staff evaluation

- Since 2014, NUK rearranged titles for administrative assistants and implemented staff evaluation strictly. All staff including school staff, workers recruited by the school, technicians, janitors, security guards, are required to be evaluated. Regular evaluation will be conducted every 4 months and listed as the reference for annual performance evaluation.
- Currently, the staff grading resulted from evaluation system is associated with staff annual bonus. Those with grade B and above will be given full-amount of annual bonus; those with grade C will not be given annual bonus; and those with grade D will not be recruited next year.

(IV) On-the-Job education training

- Each staff should receive up to 20 education training hours each year.
- Professional skills are enhanced by practical or digital training methods. According to the regulations on advanced studies for public servants, 8,000 will be given as subsidy for tuition and miscellaneous fees. 2 people made an application in 2018.

2018 Staff education training

Title	# of people		Training hours		Averaged training hours per person	
	female	male	female	male	female	male
Full-time teachers	103	154	145	198.5	1.41	1.29
Staff	135	56	6,625	2,418	49	43
Total	238	210	6,770	2,616.5	28.44	12.46

All staff includes public servant, school hired staff, technicians, janitors, security guards, and few high-tech professional staff.



III Welfare & rights of teachers and staff

Full-time teachers and staff enjoy the following welfare and rights

(I) Fairness of the treatment for teachers and staff

- For the remuneration of personnel, Teacher Remuneration Act will be applied on teachers, Public Servants Remuneration Act will be applied on public servants and NUK Recruitment and Management Regulations for School Staff will be applied on school staff. The release of annual bonus will be handled in accordance with the implementation status for public employees. The first-year salary for school staff will be given based on their educational background. Then annual evaluation will serve as the reference for salary upgrade.
- From female-to-male average salary ratio of formal employees in NUK, we can see that the differences in female-to-male average salary for assistant professors and part-time teachers exceed 5%. After analysis was conducted, we found out this is because the seniority of male assistant professors and part-time teachers are longer than female assistant professors and part-time teachers and hence resulted in the differences. So, the salary of teachers and staff in NUK differs by position, rank and seniority and not by gender.

Average salary ratio of female to male

		 F	 M
Full-time teachers	Professors	1	1
	Associate professors	1	1
	Assistant professors	1	1.07
	Lecturers (no female)	NA	1
Part-time teachers		1	1.05
Staff (including military instructors, security guards, etc.)		1	0.97
School staff		1	0.97

This data was based on the on-the-job personnel and salary thereof on Dec. 2018

(II) Vacation days and childcare days with humanity

1. For the indigenous teachers and staff in NUK, they can have the vacation days in accordance with the vacation days for the rituals of indigenous people announced by Council of Indigenous Peoples and take days of absence according to the regulations.
2. There are in total 10 people that qualified for the application of childcare days during 2017-2018. Among them, the actual number of people applied for childcare leave without pay is 10. Through the application system for childcare days, our staff can take care of their newly born babies in peace where the working rights of the staff are protected.

List of implementation status for childcare days of all staff in 2018

Title	Full-time teachers		Public servants		Part-time teachers		Staffs	
	male	female	male	female	male	female	male	female
Predetermined # of people reinstated in 2018	1	0	0	0	0	0	0	4
Actual # of people reinstated in 2018	1	0	0	0	0	0	0	4
Predetermined # of people reinstated in 2017	0	1	0	0	0	0	0	3
Actual # of people reinstated in 2017	0	1	0	0	0	0	0	3
Ratio of reinstatement	100%	—	—	—	—	—	—	100%
Ratio of retention	—	100%	—	—	—	—	—	100%

3. To avoid affecting the promotion of teaching and administrative work, teachers and staff of NUK conducted sightseeing abroad and family visits during winter or summer vacation or the uniformed holidays of the school. However, teachers and staff can also use their personal vacations for this. NUK regularly informs teachers and staff to arrange for special vacations according to regulations and encourages teachers and staff to arrange their vacation flexibly by taking vacation days. According to the data in 2018, there were 89 people applied for vacation for over 3 days, and 35 of them conducted sightseeing abroad and family visits.

(III) Health promotion for teachers and staff

1. Health Protection Group of NUK established health promotion plan according to the analysis results of health abnormalities and health examination data trend for teachers and staff and held multiple health promotion activities, such as healthy body shape control, tobacco hazards prevention, cancer screening, sexual education (including AIDS prevention), emergency education training, etc. to enhance the knowledge and attitude of teachers and staff regarding self health management.
2. Health examination expenses were subsidized every 2 years for teachers and staff over 40 years old. 51 people were subsidized in 2017 with total amount of 193,400; and 32 people were subsidized in 2018 with total amount of 137,000.

(IV) Effective communication channels

Good communication was built on the principles of active listening, empathy, genuine acceptance. According to this, we have included communication channels by formal organization and by non-formal organization and Teacher Grievances Committee and Grievances Guidelines. NUK has no work union. But we held management and labor council since Feb. 21, 2008 with 4 regular meetings a year. There were in total 24 cases from 2017 to 2018. Both parties, the management and the labor, hold integrity principles for communication during the meeting without violating labor laws to create win-win situation.



1.3 Financial Status

1.3.1 Financial Management

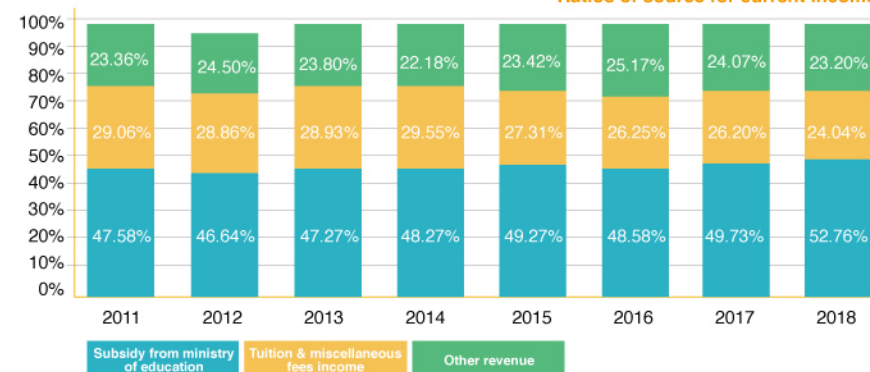
Self-help fundraising of tuition and miscellaneous fees accounted in current final accounts during 2016-2018 for over 50%. Both the total income and self-help fundraising income have slightly increased by year. The amount of cash has increased over the years.

Operational status of final accounts

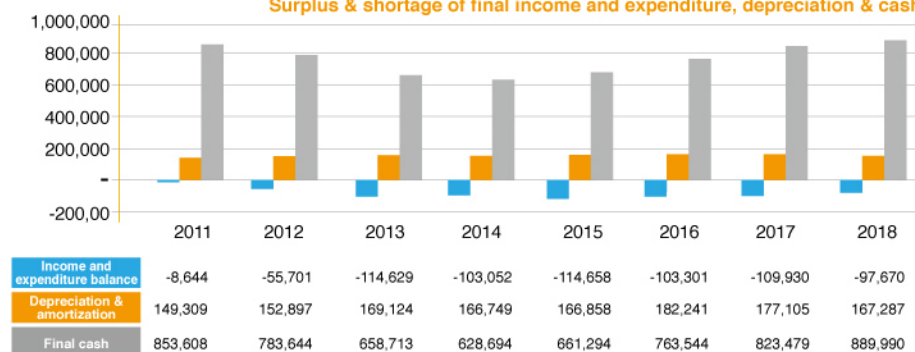
	Final accounts in 2016	Final accounts in 2017	Final accounts in 2018
Operating income	969,965	988,214	1,060,178
Tuition and miscellaneous fees income	285,126	288,845	282,424
Tuition and miscellaneous fees exemption (-)	(14,838)	(14,474)	(14,671)
Cooperative education income	172,327	170,576	180,816
Extension education income	21,994	17,640	19,301
Royalty income	-	86	180
School's teaching and research subsidy income	442,673	441,721	474,456
Other subsidy income	57,536	79,069	113,084
Miscellaneous business income	5,147	4,751	4,588
Non-operating income	59,632	59,063	53,479
Financial income (Interest income)	6,024	6,163	7,657
Assets use and royalty income	34,720	34,985	23,085
Donation income	9,520	9,351	13,343
Other non-operating	9,368	8,564	9,394
Total income	1,029,597	1,047,277	1,113,657

	Final accounts in 2016	Final accounts in 2017	Final accounts in 2018
Operating costs & fees	1,109,550	1,133,257	1,183,039
Teaching, research and training costs	756,224	780,320	808,257
Cooperative education costs	156,348	152,662	175,264
Extension education costs	12,282	15,509	17,693
Student finance & scholarships	23,272	24,481	24,730
Management & General affair fees	158,094	156,285	153,364
Other operating fees	3,330	4,000	3,731
Non-operating fees	23,357	23,950	28,288
Total costs & fees	1,132,907	1,157,207	1,211,327
Current surplus (shortage-)	(103,310)	(109,930)	(97,670)
Construction, rectification and expansion on fix assets	98,762	98,384	75,053
Intangible assets	5,287	10,332	3,558
Total capital expenditure	104,049	108,716	78,611
Total expenditure	1,132,907	1,265,923	1,289,938

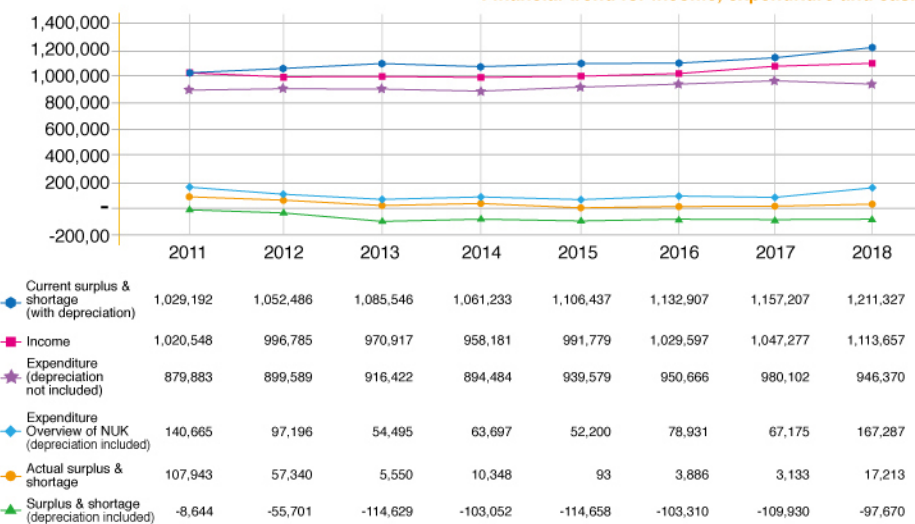
Ratios of source for current income



Surplus & shortage of final income and expenditure, depreciation & cash



Financial trend for income, expenditure and cash



1.3.2 Financial risk assessment

According to Article 30 of Regulations Regarding the Management and Supervision of School Funds at National Universities/Colleges: "If the following occurs when schools were implementing institutional funds, then Ministry of Education may ask the school to rectify within certain period; if the school did not rectify within the period, then the upper limit of the ratio defined by Paragraph 1, Article 9, for the school will be reduced or become none based on the severity of the scenario:

1. Actual deficit in annual settlement.
2. The expenditure in human resources in Subparagraph 1 to 3, Paragraph 1, Article 8 exceeds 50% of the final settlement of self-help fundraising.
3. The usable funds were too less such that it affects the completeness of institutional funds..."

Regarding the financial status of the school in recent years, brief description is given as follows brief description is given as follows according to the aforementioned financial risk pre-alarmed index items:

I The actual surplus in annual settlement is low. The possibility of having deficit in annual settlement exists.

(I) Current relevant regulations and its impact

1. According to Article 30 of Regulations Regarding the Management and Supervision of School Funds at National Universities/Colleges, if there is an actual surplus in annual settlement when using institutional funds, Ministry of Education may ask the school to rectify within a certain period; if the school did not rectify within the period, then the upper limit of the ratio for "grants and subsidies except the salary (annual remuneration) and bonus of teachers and researchers within the system and the recruitment of personal out of the system" will be reduced or become none based on the severity of the scenario.
2. According to the calculation plan (starting to be implemented from 2010) for "no occurrence of deficit" from Ministry of Education, which was appraised by Executive Yuan, the measurement basis is "total income money" minus "the net value of total expenditure after deducting the depreciation of the fixed asset addition ratio from the appropriation of exchequer in recent 5 years" in "Income Statement" from the previous year. According to such plan and under the premise that there is no occurrence of deficit and not adding burden to exchequer, loosening of human resource treatment may be conducted by within 50% of self-help fundraising such as tuition and miscellaneous fees. However, each school should control their overall financial status properly themselves. They shall not make this as an excuse to ask for additional subsidy from exchequer.

(II) Extended calculation results from 2013 to 2018

The balances of the school during 2013 to 2018 are 114.63 million, 103.05 million, 114.66 million, 103.31 million, 109.93 million and 97.67 million, respectively. The balance after deducting the basic institutional maintenance expenses from the institutional funds may not compensate the financial shortage resulted from the capital expenditure listed in the current depreciation expenses according to the lifetime of each asset based on straight line method due to cash buyout of buildings and teaching equipment. Hence, it shows deficits. In addition, according to the calculation in "no occurrence of deficits" plan from Executive Yuan, the net surplus by adding the depreciation expenses of the addition of fixed assets ratio from the grant by exchequer in recent 5 years to the aforementioned deficit are 5.55 million, 10.35 million, 90 thousand, 3.89 million, 3.13 million and 17.21 million, respectively. This shows that the surplus in recent 6 years after calculating by the "no occurrence of deficits" plan is low comparing to other schools and we have approached the threshold point for the occurrence of actual deficits in actual settlement. So, the financial risk of the school is still high.

Income statement after calculating by the "no occurrence of deficits" plan

Items	2016	2017	2018
Current surplus (deficits-)	-10,331	-10,993	-9,767
The monetary amount that can be added back according to the "no occurrence of deficits" plan	10,720	11,306	11,488
Surplus according to the "no occurrence of deficits" plan	389	313	1,721

Data source: The data from the working draft for the calculation of whether there is an occurrence of financial deficits in the institutional funds for national universities during 2013 to 2018.



II

The regulated ratio of human resource expenditure accounted for final settlement of self-help III fundraising income in recent years increased gradually year by year. According to Paragraph 1, Article 9 of management and supervision regulation, the school may support 1. monetary amount except the salary (annual remuneration) and bonus for personnel in the system; 2. remuneration for effective performances in handling self-help fundraising by administrative personnel in school system ; 3. human resource fee for personnel outside the system by self-help fundraising and the total amount is limited to 50% of the final settlement of self-help fundraising income in recent years. By conducting statistics on the aforementioned human resource fees during 2015 to 2018, the actual payments according to the regulation were 175.95 million, 182.45 million, 190.43 million and 208.60 million, which increased by year. In addition, the ratios of such human resource fees accounted for the final settlement of self-help fundraising income in recent years were 35.50%, 36.27%, 35.97% and 39.62%. After viewing the reasons for the gradual increase by year in the aforementioned human resource fees, such fact was due to the continuous increase in the human resource fees for personnel outside the system where 25.70 million was increased within 4 years. Though the ratio accounted thereof did not exceed the upper limit of 50% by regulation. However, this gradual increase trend shows that the recruitment of personnel outside the system should be controlled actively.

Status for human resource expenditure accounted for final settlement of self-help fundraising income in recent years

Items	Final settlement in 2016	Final settlement in 2017	Final settlement in 2018
Monetary amount except salary (annual remuneration) and bonus for personnel in the system	36,212,202	39,533,913	46,538,717
+ Human resource fee for personnel outside the system	143,382,966	148,965,201	160,305,648
+ Remuneration for effective performances in handling self-help fundraising by administrative personnel in school system	2,862,244	1,934,224	1,765,115
Total amount of of the upper limit of 50% final settlement of self-help fundraising income expenditure according to Paragraph 1, Article 9 of Management and Supervision Regulations (A)	182,457,412	190,433,338	208,609,480
Total final settlement of self-help fundraising income in the recent years (B)	503,119,664	529,388,398	526,487,424
The ratio of the upper limit of 50% final settlement of self-help fundraising income in recent years accounted for human resource expenditure according to Paragraph 1, Article 9 of Management and Supervision Regulations (C=A/B)	36.27%	35.97%	39.62%

III

Usable funds at the end of the year accounted for the final settlement of usual cash expenditure on average each month in recent years has grown by year. By conducting statistics on the total usable funds at the end of the year during 2015 to 2018 were 525 million, 633 million, 656 million and 684 million, showing an increasing trend where around 108 million more was added in 2016 than in 2015. This is because there was no larger construction work in 2016. Also, Ministry of Education supplemented the operational funds for the new construction work of administration building paid in advance, which was 54 million. Hence, the cash in that year increased a lot. In addition, the usual cash expenditures in the recent 4 years were 771 million, 794 million, 806 million and 838 million. Overall, it shows an increasing trend. The annual cash expenditure has grown around 67 million. The overall cash flow in is much greater than the cash flow out, so the usable funds increased gradually by year. The usable funds at the end of the year accounted for usual cash expenditure on average each month in recent years has grown by year.

Usable funds at the end of the year accounted for the final settlement of usual cash expenditure on average each month in recent years

Items	Final settlement in 2015	Final settlement in 2016	Final settlement in 2017	Final settlement in 2018
(I) Usage funds till December each year				
Cash (D)	661,293,784	763,544,179	823,479,121	889,990,058
Short-term assets for cash-in (E)	26,103,695	29,460,923	13,817,009	39,504,717
Short-term liability (F)	162,239,701	159,600,663	180,319,542	223,458,230
Amount yet implemented by the subsidy plan of capital (G)				21,178,972
Usable funds (H = D +E – F – G)	525,157,778	633,404,439	656,976,588	684,857,573
(II) Usual cash expenditure spent in final settlement on average each month in recent years				
Total business expenditure	1,061,232,704	1,106,436,858	1,132,906,913	1,157,207,505
- Depreciation, consumption and amortization	166,749,092	166,858,482	182,240,587	177,105,272
- Costs in cooperative education	133,729,595	156,898,271	156,347,821	152,661,984
Depreciation, consumption and amortization under cooperative education	11,152,672	11,829,685	11,745,047	10,559,971
Status of usual cash expenditure (I)	771,906,689	794,509,790	806,063,552	838,000,220
Usual cash expenditure each month on average (J = I/12)	64,325,557	66,209,149	67,171,963	69,833,352
(III) Usable funds till December each year accounted for usual cash expenditure multiples each month on average in recent years (K = H/J)	8.16	9.57	9.78	9.81

IV Current countermeasures:

It has been estimated that the number of future students will decrease due to sub-replacement fertility. Regarding this and by referencing the financial status trend in recent years, NUK will continue to promote relevant measures for income increase and expenditure reduction formulated. The measures are described as follows:

(I) Income increase – expanding self-help fundraising income

1. Cooperative education and extension education income: Implement practical income increase measures, such as fighting for external cooperative education and project subsidy plan income proactively, launch all kinds of extension education programs, increase extension education income, etc., in accordance with the regulations for income increase and expenditure reduction in order to make ample institutional funds.
2. Financial income: Continue to enhance fund investment management and create maximum investment revenue.
3. Donation income: Make fundraising objectives practical and integrate the school's annual focus development plan, such as construction of accommodations, scholarships, seminars and academic meetings, rectification of facilities, etc.
4. Enhancing the management fees coordinated by the school: Enhancing the ratio of management fees coordinated by the school reasonably and include them in institutional funds to fill the shortage.
5. Increasing interest income: Review cash flow at all times, dispatch funding flexibly and save the idle funds as time deposit to increase interest income.
6. Establishing reasonable charging standards and using facilities and sites efficiently: Each unit should review the existing income regularly, establish reasonable charging standards according to building, equipment depreciation and space usage status and make good use of the facilities and sites of the school, such as lending sites, etc.

(II) Expenditure reduction – economize costs

1. Manage manpower reasonably and create flexible adjustment of staff number and application and management system regularly, make lean organization of manpower, control human resource expenditure.
2. Control certain staff number for full-time teachers and reserve the quota of human resource fees for supporting the hourly pay of part-time teachers.
3. Strictly control the number of teachers and the total number of courses and go for team teaching in large classes and economize the hourly pay for teachers.
4. Organize the implementation status of each unit quarterly in accordance with the regulations for income increase and expenditure reduction and submit to University Funds Management Committee to track its implementation outcome.



Institutional Management

2.1 Operational Status of Committees

All kinds of meetings are categorized according to its properties as shown in the following figure.



All kinds of meetings in NUK

2.1 Operational Status of Committees

2.2 School Features, Development Prospect and Principles

2.3 Risk Analysis

2.4 Campus Safety

2.5 Management of Business Interaction with Vendors

2.6 Communication with Stakeholders, Identification of Major Issues and Boundaries

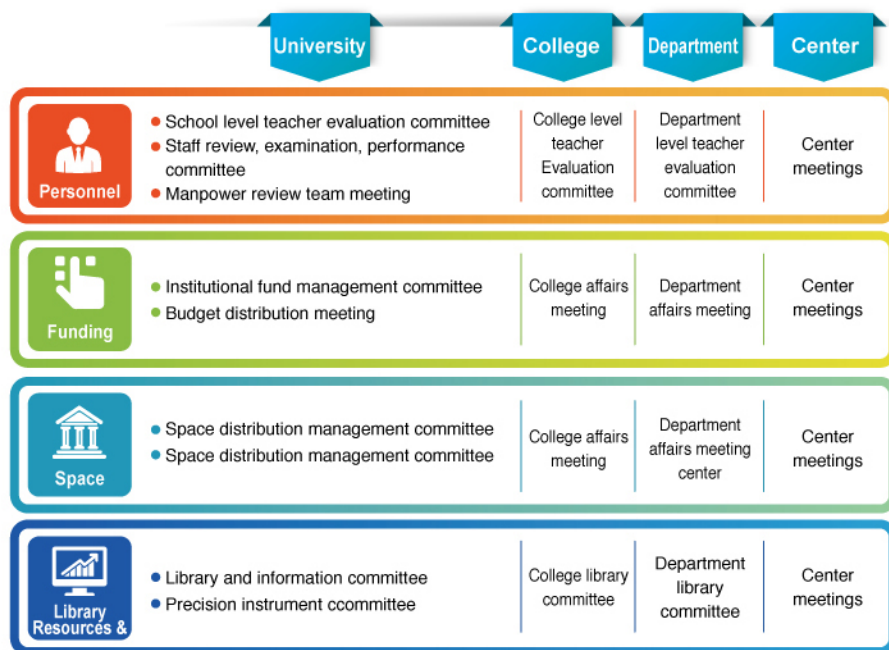
2.6.1 Communication with Stakeholders

2.6.2 Identification of Major Issues

2.6.3 Priority of Major Issues and Boundary Analysis

2.6.4 Development Strategies and Management Directions

The resources devoted into institutional development include manpower, funding, spaces, library resources and equipment, etc. All of them have complete supporting administration and relevant regulations for planning and configuring. The detailed explanations are given as follows:



Overall infrastructure for devotion of resources and configuration methods



2.2 School Features, Development Prospect and Principles

NUK responds to the manpower demands of the current society and talent cultivation policies from Ministry of Education according to the objectives for school establishment and education notion. With the current manpower and resources, NUK holds on the spirit for breakthroughs and innovations. Before continuing to expand, we adopted elaborative strategies to create excellent qualities. NUK not only enhances the current excellent base, but also emphasizes the development of featured departments, institutes and centers, hoping to achieve the prospect: "integrating teaching, research and industrial development, valuing humane quality and technology innovation and cultivating talents" and go towards cultivation of Globalizing excellent talents.

When NUK was establishing, higher education had been making thriving developments and emphasized that governance and operation of universities should be objective-oriented. Hence, regarding the establishment of prospects and positioning during school development process, NUK took them carefully and seriously. First, the direction of prospect and positioning were discussed through level I manager level strategy meeting. Second, there would be sufficient discussion during the administration meeting participated by the chief of departments and institutes. After that, the chiefs would bring the discussion results back to departments, institutes and units and organize the opinions of teachers and staff from bottom-to-top. Next, the institutional development committee, including alumni and external committee members, would provide external opinions to make refinement and concentrate to reaching a consensus. Finally, the development demands would be formed by the consensus of all teachers, staff and students obtained through institutional meeting. All of this translates to the fact that we can enhance the transformation and upgrade of traditional industries in the larger Kaohsiung areas and support the manpower required by the global layout by Taiwanese businessman.

Year	Meeting & contents	Prospect	Positioning
2008	Strategy meeting		Teaching & research university
2009	2009~2012 institutional development plan	Become top university in southern Taiwan	Teaching & research university with international competitive advantages
2010	Strategy meeting (1)*	Exquisite university with international reputation	Short- and Mid- Term: exquisite university combined with local industry Long term: exquisite university with international perspective
	Strategy meeting (2) 26 institutional meetings	Featured university with international reputation	Featured excellent university which integrates teaching, research and industrial development, values humane quality and technology innovation and cultivates talents
2011	2013~2020 Mid-to-Long term institutional development plan (established in April 2013)		
2012	2013~2020 Mid-to-Long term institutional development plan (amended in April 2014)		
2013	2013~2020 Mid-to-Long term institutional development plan (amended in March 2017)		

Prospect and positioning and revision progress for Mid-to-Long term institutional development plan

2.3 Risk Analysis

Referencing SWOT analysis results on the internal and external environment listed in self-evaluation report and institutional mid-to-long term development plan.



S: Strength

W: Weakness

O: Opportunity

T: Threat

Strength, Weakness, Opportunity and Threat (SWOT) Analysis Chart

Internal Analysis

S1: Geographical environment strength
S2: Teacher's professional strength
S3: Student quality strength
S4: Featured development/Institute strength

S

W1: Amount of teachers, staff and students were less
W2: Alumni was only a few and young
W3: Insufficient industrial, academic practices and experiences
W4: Insufficient financial resources

W

S: Strength O: Opportunity

- Promotion on featured talents cultivation for local industry.
- Encourage teachers to have diverse professional development.
- Promote Interdisciplinary Employment Program with Enterprise Participation (Industry-Academia Joint Certification).
- Lay solid foundation on students' fundamental skill cultivation and lifelong education and promotion on students practicing in enterprise.
- Cooperate with new south-oriented policy; make rich cultivation in East Asia Higher Education; and set up Southeast Asia Development Center.
- Promote Six-Q Learning; strengthen Students' Innovation and Entrepreneurship Capability and Guidance; and implement legal compliance education (legal quality).
- Enhance communication and cooperation with local industries; and increase industry-academia research plan, patents and skill transfer capability.
- Apply feature programs of big data and cloud technology and strengthen students' AI entrepreneurship capability.

W: Weakness O: Opportunity

- Import Industrial teachers to conduct team teaching and guide students towards adaptive development.
- Promote teachers to attend workshops in industries and encourage industry-academia cooperation.
- Make international learning environment complete; formulate international campus; allocate 2 million exclusive funding for internationalism through fundraising each year.
- Integrate digital courses (such as MOOCs) and develop featured teaching materials.
- Promote three industry three teacher guidance; integrate alumni resources; and strengthen students' innovation and entrepreneurship guidance.
- Apply data mining and information technology; strengthen institutional research; and support institutional policies.
- Connect courses with community culture preservation, environment sustainability and facilitate community and school feature development.

External Analysis

O1: Regional featured industry development trend
O2: Job-oriented higher education trend
O3: Digital information learning network trend
O4: International exchange trend
O5: Me generation (self-centered generation) student's special characteristic trend
O6: Artificial intelligent technology application trend
O7: University social responsibility and local connection

O

T1: Tightening of higher education resources
T2: Vigorous domestic and foreign higher education competition
T3: Effect by sub-replacement fertility
T4: Impact by international environment

T

S: Strength T: Threat

- Implement third school system summer semester pre-session; promote excellent advancing plan for regional high school and launch high school discovery credit course to store student source.
- Enhance the quantities of full English courses/programs.
- Promote double joint school system and sign Agreement for Scholarly Exchange and Collaboration (MOU).
- Participate in Education Fair actively; expand the admission for foreign students; and enhance the number of international exchange students.
- Integrate research and development resources in school and establish focus research center.
- Deepen Teachers' Excellence Award System and encourage industry-academia research and development.

W: Weakness T: Threat

- Integrate institutional research and implement effective campus resource distribution and application.
- Activate campus space; establish management team for institutional fund investment; and promote enterprise fundraising.
- Promote cross-school cooperation mechanism and cross-school resource integration and sharing in Kao-Tung-Ping region.
- Participate in relevant alliances of Southern Taiwan universities and colleges actively and implement integration plan to create teaching excellence jointly.
- Strengthen the cooperation with Kaohsiung City Government, enterprise and public units and build featured regional industry-academia research center.
- Promote informatization operational environment (such as electronic official document system) and implement complete teaching platform.

2.4 Campus Safety

The campus is a public area. From the beginning of establishment, NUK praises itself to have a friendly campus that provides students, teachers and staff with excellent campus scenery and environment and provides residents with a great place for exercising and walking. Not only do we have 24-hour security guards patrolling at regular times, but we have also held multiple seminars on campus safety activities for students.

Organizational chart for campus safety activities for the past 2 year

Items	Name of the activity	# of people participated
106/2/26-3/9	Friendly campus week – rejecting tobacco anti-drugs anti-bullying counter-signature activity	252
106/3/1	University anti drug abuse – propaganda for rejecting drugs in Chiautou elementary school	26
106/3/8	University anti drug abuse – propaganda for rejecting drugs in Chiautou elementary school	650
106/3/12	University anti drug abuse – propaganda for rejecting drugs in Sing-Tang elementary school	250
106/3/19	University anti drug abuse – propaganda for rejecting drugs in Jai-Wei elementary school	125
106/4/14	105-2 Transportation safety education committee	25
106/5/3	Echinacea campaign "rejecting drug from beginning and Anti-Drug propaganda service learning mode" promotion activity at Nan Yang elementary school	600
106/5/8	NUK is great rejecting tobacco anti-drug – student anti drug abuse seminar	120
106/5/18	Held tobacco hazards prevention committee	15
106/5/9	Professional training and seminar for echinacea campaign "rejecting drug from beginning and anti-drug propaganda service learning mode"	120
106/5/8~12	Transportation safety education propaganda week – supporting transportation safety counter-signature & questionnaire activity	1,100
106/5/10	Echinacea campaign "rejecting drug from beginning and anti-drug propaganda service learning mode" promotion activity at Nan Yang elementary school	300
106/5/11	Transportation safety education propaganda week – propaganda seminar	All teachers and students
106/5/29	Anti drowning (drug) and CPR emergency medical education propaganda	110
106/8/31	2017 National disaster prevention day – coordination meeting for earthquake refuge covering drill	45
106/9/9~10	Dorm rejecting tobacco anti-drug propaganda activity	Over 600
106/9/9~10	Dorm transportation safety propaganda activity	Over 600
106/9/11~29	Friendly campus week – rejecting tobacco anti-drugs anti-bullying counter-signature activity	1,100
106/9/11~29	Friendly campus week – transportation safety counter-signature activity	1,100
106/9/11 · 13	School year 2017 campus safety and Law compliance education propaganda seminar	Around 1,600
106/9/12	School year 2017 dorm student earthquake refuge drill	Around 1,600
106/9/21	2017 National disaster prevention day earthquake on-line drill and 2017 national disaster prevention day Taiwan anti-earthquake drill activity	All teachers and students
106/9/26	Orientation for newcomers to chemical and material engineering department with transportation safety propaganda	40
10/10/2	Class representative meeting drug abuse and tobacco prevention, campus and transportation safety propaganda	80
106/10/20~26	Victim protection propaganda week	All teachers and students
106/11/21	Forum between the president and students with transportation safety propaganda	100
106/11/21	Anti network bullying and legal education propaganda	100
106/12/14	Uniform party with transportation safety propaganda	50

Items	Name of the activity	# of people participated
106/12/28	International carnival with transportation safety propaganda	200
107/3/21	Class representative meeting for the propaganda of drug abuse, tobacco prevention and campus safety	80
107/3/21	Class representative meeting with transportation safety propaganda	80
107/3/24	School anniversary fair with transportation safety propaganda	300
107/4/10	Transportation safety and law compliance education propaganda	100
107/4/29	Anti drowning and anti-drug propaganda	90
107/5/14	106-2 transportation safety committee	25
107/8/8	Forum of college and department for propaganda of drug abuse and tobacco prevention	40
107/9/5	Leader cultivation camp with drug abuse, tobacco prevention and campus safety propaganda	45
107/9/9~10	Rejecting tobacco and anti-drugs propaganda activity for dorm	1,200
107/9/10~11	School year 2018 campus safety and law compliance education propaganda seminar	Around 1,600
107/9/12	School year 2018 dorm student earthquake refuge drill	Around 1,600
107/9/18	2018 National disaster prevention day coordination meeting for earthquake refuge and cover drill	45
107/9/18	Workshop for prevention personnel against tobacco in campus	40
107/9/18~29	Friendly campus week – rejecting tobacco anti-drugs anti-bullying counter-signature activity	1,300
107/9/18~29	Friendly campus week – transportation safety counter-signature activity	1,300
107/9/21	2018 National disaster prevention day earthquake on-line drill and 2018 national disaster prevention day Taiwan anti-earthquake drill	All teachers and students
107/9/25	Semester beginning meeting with 2018 anti drug abuse, anti drug use, propaganda service learning mode promotion activity	25
107/10/16	107-1 Class leader forum with anti drug abuse and tobacco prevention propaganda	100
107/10/16	107-1 Class leader forum with transportation safety propaganda	100
107/10/18	Chief of the offices of student affairs meets with Nan tzu police bureau director	4
107/11/12	Contemporary course of earthquake refuge and disaster prevention drill	172
107/11/6	Workshop for Leaders of Chun-Hui volunteers with new drug prevention seminar	25
107/11/6	Knowledge and skill activity for mentors of college of management with the new drug prevention and transportation safety propaganda	20
107/11/7	Knowledge and skill activity for mentors of college of social science with the new drug prevention and transportation safety propaganda	20
107/11/14	Knowledge and skill activity for mentors of college of engineering with the new drug prevention and transportation safety propaganda	20
107/11/15	Knowledge and skill workshop for mentors with seminars on new drug prevention	25
107/11/15	First contemporary course of earthquake refuge and disaster prevention drill	44
107/11/19	Second contemporary course of earthquake refuge and disaster prevention drill	47
107/11/20	2018 Interaction forum between the president and students and workshops for leaders of rejecting tobacco and anti-drug volunteers	120
107/11/29	Knowledge and skill activity for mentors of college of law with the new drug prevention and transportation safety propaganda	20
107/12/20	Knowledge and skill activity for mentors of college of science with the new drug prevention and transportation safety propaganda	20
107/12/25	Performance sharing activity on the propaganda of university student drug abuse and non-smoking campus	25

2.5 Management of Business Interaction with Vendors

Vendors that NUK does business with provide services to the school, which include office machines and instruments, engineering construction equipment, and cleaning and security services. Our school is a public agency, hence, our procurement shall comply with the procurement law stipulated by Public Engineering Committee of Executive Yuan. For procurement over NT\$ 100,000, public procurement shall be conducted according to the different monetary amount of the procurement and contract fulfillment management shall be conducted according to the contract.

List of procurement scale and bid and award of bid methods

Budget amount	Approval of procurement case	Appraised base price	Personnel holding open bid	Main acceptance personnel
30,000 and below	Demand section chief	—	—	Self-selected personnel by demand unit
30,000~100,000	Chief secretary	—	—	Self-selected personnel by demand unit
100,000~500,000	Administrative vice president	Chief of general affairs	Leader of school affairs or assigned personnel	Chief of general affairs or assigned personnel
500,000~1,000,000	Administrative vice president	Administrative vice president	Chief of general affairs or assigned personnel	Chief of general affairs or assigned personnel
1,000,000 and above	President	President	Administrative vice president or assigned personnel	Administrative vice president or assigned personnel

- Confirm the source of funding and monetary amount of the procurement
- Order by common supply contract
- Submit letter, fill in ordering sheet, procurement specifications
- Decide the best bidding method

Flow chart for procurement procedure

Prepare budgets	Draft bid document	Procedure for award of bid	Contract fulfillment management	Others
<ol style="list-style-type: none"> 1. Confirm demands 2. Establish plan 3. Determine budgets 	<ol style="list-style-type: none"> 1. Confirm specification 2. Decide qualification 3. Bidding method 4. Principles for award of bid 5. Bid documents 	<ol style="list-style-type: none"> 1. Bid procedures 2. Open bid procedures 3. Review bid procedures 4. Award of bid procedures 5. Treatment for dispute 	<ol style="list-style-type: none"> 1. Quality control 2. Check on construction 3. Acceptance 4. Accepted by price reduction 5. Warranty 6. Treatment for dispute 	<ol style="list-style-type: none"> 1. Bad vendors 2. Appeal cases 3. Reported cases 4. Functionality review

Layer-by-layer responsibility chart for procurement procedure

Procurement scale	Huge amount	Reviewed amount	Announced amount	a value not up to the announced amount but more Small amount than one tenth thereof	Small amount
Property of the procurement case	Engineering Financial Labor	200 million 100 million 20 million	50 million 50 million 10 million	1 million	Over 100 thousand and below 1 million Below 100 thousand
Bid / Award of Bid	<ol style="list-style-type: none"> 1. Public bid (Article 19) 2. Selective bid (Article 20 and 21) 3. Restrictive bid (Article 22: complied with subparagraph 1 to 16, paragraph 1, article 22) <p>Principles for award of bid The lowest bid, the most beneficial bid (article 52), award of bid with fixed rate (fee)</p>			<p>Article 23: "Tendering regulations of central government entities for procurement of a value not reaching the threshold for publication" Article 2: 1. 22-1-1~15 2. 22-1-16</p> <p>Restricted bid 3. Public solicitate vendors to provide written quotation or project plans (acquired publicly)</p>	<p>Article 23: "Tendering regulations of central government entities for procurement of a value not reaching the threshold for publication" Article 5: may directly negotiate with the supplier where public notice and submission of offers or proposals from suppliers are waived.</p>



List of types of vendors in business relationship with NUK




	Financial category	Engineering category	Labor category
2016	48 54 %	7 8 %	34 38 %
2017	49 51 %	10 11 %	36 38 %
2018	33 51 %	2 3 %	30 46 %





2.6 Communication with Stakeholders, Identification of Major Issues and Boundaries

2.6.1 Communication with Stakeholders

In 2018, representatives of the institutional meeting made an internal discussion with the chief of each department, referenced the stakeholder groups identified by related universities and identified the stakeholders as individuals or organizations directly or indirectly affect the school. Hence, this includes students, teachers, staff, alumni, parents and community people, enterprises, NGO groups. The relevant communication channels are shown in the following table.

Communication methods and frequency for each stakeholders

Stakeholders	Concerned issues	Communication methods	Frequencies
 Students	<ul style="list-style-type: none"> • Campus safety • Learning resource • Learning outcome • Fairness and no discrimination learning environment • Employment opportunities • Ecology conservation • Green and beautify the campus 	Student forum	Every school year
		Student association of department and club leader meeting	8/year
		Talk between the school and clubs	2/year
		Dorm student meeting	4/year
		Meeting with representatives of graduates	4/year
		Public affair mailbox of each unit	Irregular
		Webpage "I have sth to say"	Irregular
 Teachers	<ul style="list-style-type: none"> • Teaching and research environment • Training Examination • Teacher promotion • Employee welfare • Employee insurance • Campus safety 	Guidance knowledge and capability workshop for teachers	15-22/year
		New teacher forum and "teacher experience passing system"	2/year
		Public hearing	Irregular
		Teaching skill enhancement workshop for teachers	Irregular
		Public affair mailbox of each unit	Irregular
 Staff	<ul style="list-style-type: none"> • Education training • Examination and promotion • Employee Welfare • Employee Insurance • Campus Safety 	Human resource service message	Every month
		Management and labor meeting	Every season
		Teachers and staff forum	Every year
		Public affair mailbox of each unit	Irregular

Stakeholders	Concerned issues	Communication methods	Frequencies
 Alumni	<ul style="list-style-type: none"> • Opportunities for going back to school to take advanced studies • Sustainable learning • School (Department) Alumni Association 	School anniversary	Each year
		Department alumni association	Irregular
		Managing and executive director Meeting of school alumni association	Every 3 months
		Public affair mailbox of each unit	Irregular
 Parents & community people	<ul style="list-style-type: none"> • Students' learning resources • Students' learning outcome • Campus governance • Employment opportunity • Industry-Academia cooperation • School reputation • Ecology conservation • Green and beautify campus 	Parents Forum	Each school year
		Prompt response system for opinions	Irregular
		Public affair mailbox of each unit	Irregular
 Enterprises	<ul style="list-style-type: none"> • Student quality • Practical Capability • Industry-Academia Cooperation • Research and Development Energy 	Contract ceremony	Irregular
		Industry-Academia matching meeting, Industry-Academia exchange meeting, enterprise seminar	Irregular
		Other enterprise involved activities	Irregular
		Industrial cluster alliance meeting	Irregular
		Public affair mailbox of each unit	Irregular
 NGOs	<ul style="list-style-type: none"> • Campus governance • School reputation • Ecology conservation • Green and beautify campus 	Contract ceremony, seminar, member meeting	Irregular
		Public affair mailbox of each unit	Irregular



I Students

(I) Holding student forum

Forum between the president and students is held regularly each school year where first level chief will also attend. Regarding the opinions proposed by the students, they will communicate and explain during the forum and then announced the problems, replies and implementation status for future reference. During 2014 to 2018, 5 forums were held with around 590 people attended. In addition, each college or development holds seminars and relevant exchange activities for school students irregularly to enhance interaction and communication system.

(II) Student club and student autonomous organization forum

Forum for student association of department, student club and student form autonomous association are held regularly where the directions for all kinds of activities and funding and subsidy principle are being discussed with student. In addition, NUK will also understand more about the development of students' soft skills so that the soft skill development plan may be revised.

List of statistics on the number of group meetings between the school and all kinds of student self-government group

	Holding frequencies	Participation status
Student association of department and club leader meeting	8/year	Around 400 people
Talk between the school and clubs	2/year	Around 180 people
Dorm student meeting	4/year	Around 300 people
Graduate representatives meeting	4/year	Around 160 people

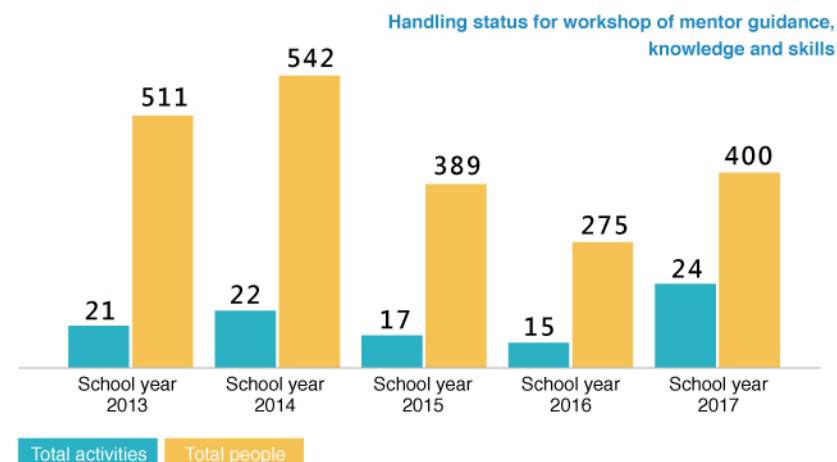
(III) Permanent opinion response channel

Office of student affairs will email the opinions reported in the exclusive zone of the webpage "I have something to say" to the secretary or case officers of each responsible unit. Each college and operation unit all establish email and write the contact phone of the case officers on the entrance webpage of their unit to enhance the interaction with relevant party. The exclusive zone "I have something to say" under the webpage of office of student affairs has received 116 messages in 2013, 185 messages in 2014, 208 messages in 2015, 119 messages in 2016, 26 messages in 2017 and 39 messages in 2018 and they replied all of them.

II Teachers

(I) Holding workshops for enhancing knowledge and skills for mentors guidance

Office of student affairs holds workshops, seminars, workshops for enhancing knowledge and skills for mentors guidance and holds guidance experience exchange and seminar jointly with each college.



(II) Holding forum for new teachers and "teachers mentoring system"

With this forum, we helped the new teachers to understand the operation of each unit, administration regulation and application regulation for all kinds of subsidies. There were in total 41 people guided and 9 sessions of "Lunch with new teachers" held with mentoring ratio 100% during 2013 to 2017.

(III) Relevant institutional information was announced by the form of public hearing

In total there were 6 sessions of "Public hearing for relevant regulations on the revision of teacher's promotion" held with 112 people who attended where positive feedback was provided for references of revision of regulations.

(IV) Holding teaching skill enhancement workshops for teachers

In order for teachers to understand the implementation of the policies in teaching aspect, teaching skill enhancement workshops for teachers are held, such as full-English teaching workshop, deep course innovation teaching and teaching practices, to mention a few and also workshops in other aspects. In total there were 91 sessions held with 3,087 people attended.

III Staffs

(I) Human resource law campaign

Collect relevant laws and regulations each month and organize them as human resource service message. Then issue them by sending emails every month to announce human resource affairs.

(II) Strengthen management and labor relationship

Management and labor meeting was held every season each year. Regarding the benefits of both management and labor, they proposed ideas for discussion jointly and made update on new changes to enhance management and labor relationship and protect labor rights.

(III) Exchange and feedback with teacher and staff opinion

NUK holds teacher and staff forum. There were 7 sessions held during school year 2013 and 2014. The problems proposed during each forum was discussed properly according to properties thereof by the responsible and control unit. Then these will be signed off or submitted to the chiefs and administration meetings for discussion through administration procedures. The implementation status will be tracked regularly until all have been released from controlling and tracking.

IV Alumni

The alumni association of each department often holds activities inviting alumni to visit the department during school anniversary, graduation ceremony or at any time they wish to visit the school. By holding different forms of sharing activities, such as seminars and parties, the interaction between teachers, students and alumni can be enhanced and the circulation of emotion and information may be facilitated among each other.

Regarding the connection with alumni, NUK has established "NUK Alumni Association" reported to the government. In addition, executive and managing director meetings will be held in the second week, every 3 months regularly while member meetings will be held every year. Channels were created so that the graduated alumni who become members may regularly come back to their former school and provide scholarship for students under poverty line. This act not only shows their love for their former school but also gives them the opportunity to take care of their fellow schoolmates. In addition, there were two other organization of alumni association reported to the government (Kaohsiung city NUK alumni association for law department and NUK alumni association of EMBA)

V Parents and Community People

(I) Holding parent forum

Forum for parents of new students is held regularly once each school year, where around 80 to 120 people attended each time. Exclusive letter will be sent to invite parents of the new students to understand all kinds of information of the school and provide suggestion for improvement. By asking questions, the parents can understand all kinds of problems in the school life of the students. In addition, suitable guidance strategies may be proposed to achieve triple win situation among teachers, parents and their kids. After the meeting, the problems, replies and implementation status will be announced on the webpage of the school for parents to inquire.

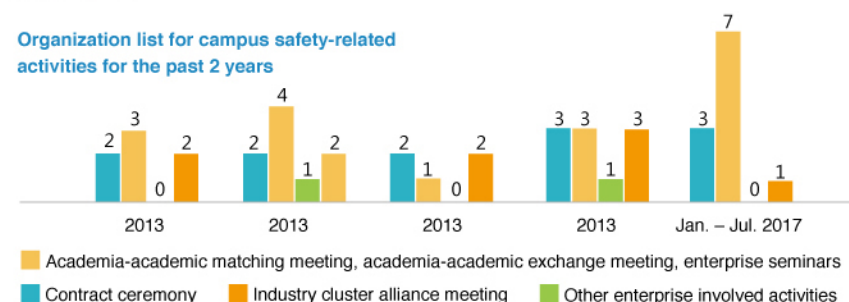
(II) Establishing "Prompt Response System for Opinions"

To enhance the efficiency and innovation of school administration, "Prompt Response System for Opinions" was built on the homepage of the school and the webpage for the president's office and secretary's office. This transforms the past paper-based appeal cases to electrical format and shortens the period as 5 business days. There were in total 103 reporting cases during 2016. The number of reporting cases during the first semester of 2017 was 97.

VI Enterprises

NUK actively exchanges and interacts with local enterprises actively and arranges the president and chiefs of all levels to visit outstanding enterprises. By making school information public and incorporating the demands of local enterprises with development prospect, NUK hopes to fight for school resources, make efforts in expand the possibility of industry-academia cooperation and expand donation channel. In addition, NUK attends or holds contract ceremony for industry-academia cooperation memo (such as Kaohsiung City Professional Civil Engineers Association and Kaohsiung City Youth Entrepreneurship Association), Industry-Academia Match or Seminar (such as Practice and Cooperation Seminar of Advanced Semiconductor Engineering, Inc.), other enterprise involved activities and joins industry cluster alliance to announce the research and development of the school and the capability of industry-academia cooperation.

Organization list for campus safety-related activities for the past 2 years



VII NGOs

By holding the concept of "hoping greenness for NUK and hoping sustainability for environment protection" and taking on the goal of reaching sustainable university, NUK signed "The Tallories Declaration" and led Taiwan by becoming the first national university to be listed among global green universities. Moreover, NUK participated in "Taiwan Green University Alliance" to implement The Tallories Declaration actively and achieve the social responsibility and tasks of higher education.

NUK receives institutional evaluation held by Higher Education Evaluation and Accreditation Council of Taiwan entrusted by Ministry of Education every four years. NUK obtained the recognition from the evaluation members in each evaluation and continued to make rectification on the suggested matters from the evaluation members. In addition, NUK held high-school English listening test, General Scholastic Ability Test and Advanced Subjects Test for College Entrance Examination Center every year. There were no major faults that occurred up to now. All kinds of tests were held perfectly.



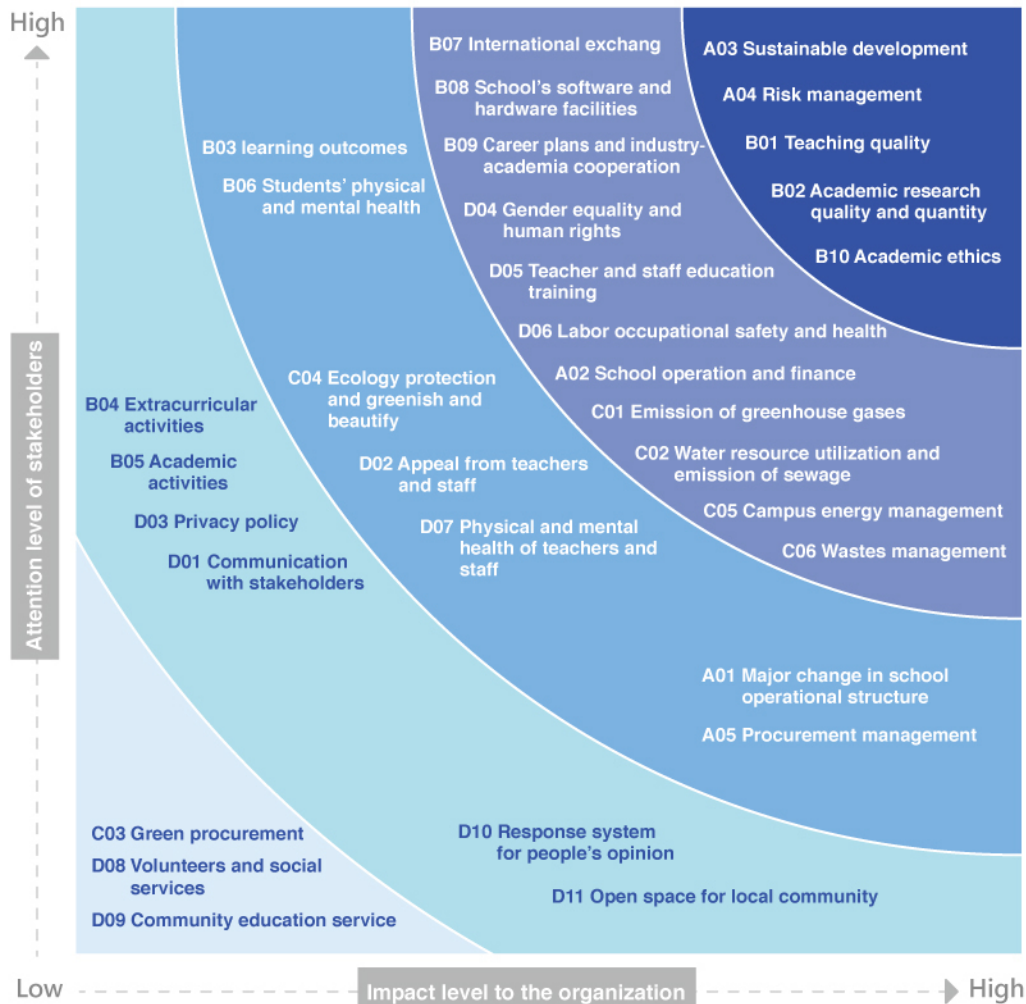
2.6.2 Identification of Major Issues

In 2018, NUK conducted discussion on the impact level of each issues among the representatives of the institutional meeting and the chiefs of each department and obtained the matrix diagram for major issues. The major issues of the report were identified and divided into five major steps:

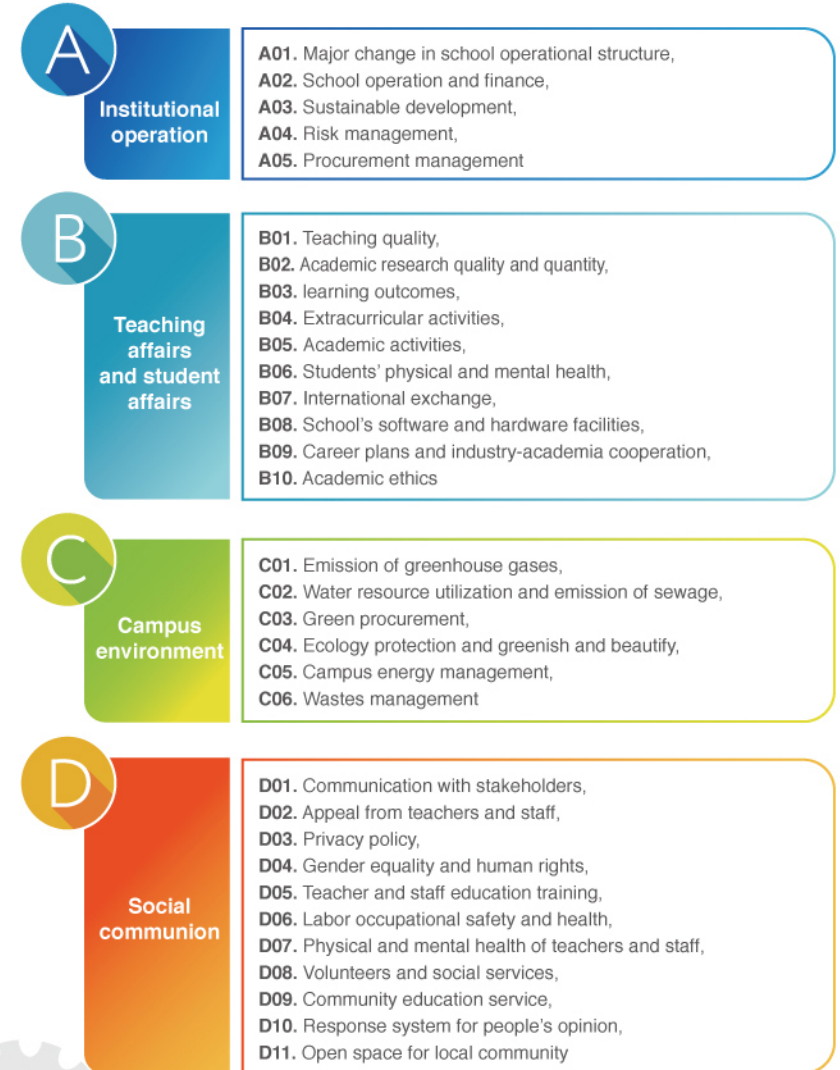
Analysis diagram for major issues



Substantive analysis diagram for major issues



Categorized organizational list for the four aspects and concerned issues



2.6.3 Priority of Major Issues and Boundary Analysis

After identifying the major issues disclosed in the report, the substantial scopes for the collected and reported information of the major issues are divided into in school and outside the school. In school represent NUK itself, covering students, teachers and staff; outside the school represents parents, community people, alumni, enterprises and NGOs.

Ordering of major issues, disclosed chapters and boundary analysis chart

Aspect	Major issues	GRI standards major topics/ school customized topics	In school			Outside the school				Corresponding chapter in the report
			Student	Teachers	Staff	Parents & community	Alumni	Enterprise	NGOs	
Institutional operations	A02 School operation and finance	201 Economic effect	●	○	●	●	○	●	○	1-3-1 Financial management
	A03 Sustainable development	102-11 Precautionary principle	●	○	○	○	○	●	●	4-4 Campus sustainability management
	A04 Risk management	102-11 Precautionary principle	○	○	●	○	○	●	○	2-3 Risk analysis
Teaching affairs and student affairs	B01 Teaching quality	Appendix 2 school customized topic	●	●	○	●	○	●	○	3-1 Teaching quality
	B02 Academic research quality and quantity	Appendix 2 school customized topic	●	●	○	●	●	○	○	3-4 Academic research quality and quantity
	B07 International exchange	Appendix 2 school customized topic	●	○	○	●	●	○	●	3-7 International exchange and international partnership
	B08 Software and hardware	Appendix 2 school customized topic	●	●	●	●	○	○	○	3-2 Software and hardware facilities
	B09 Career plan and industry-academia cooperation	Appendix 2 school customized topic	●	○	○	●	●	●	●	3-8 Advanced studies and extension education operation
	B10 Academic ethics	102-16 Value, principle, standard and action regulation	○	●	○	○	○	○	○	3-5 Academic ethics
Campus environment	C01 Emission of greenhouse gases	305 Emission	○	○	●	○	○	●	●	4-3.4 Carbon emission
	C02 Water resource utilization and emission of sewage	306 Sewage and wastes	○	○	●	○	○	○	●	4-2.2 Management of water resource
	C05 Campus energy management	302 Energy	○	○	●	○	○	●	●	4-3.1 Electricity-saving measures
	C06 Waste management	306 Sewage and wastes	○	○	●	○	○	●	●	4-2.3 Management of wastes
Social communio	D04 Gender equality and human rights	401 Management and labor relationship	○	●	●	●	○	○	○	1-2.2 Management of human resources
	D05 Teacher and staff education training	404 Training and education	○	●	●	○	○	○	○	1-2.2 Management of human resources
	D06 Labor occupational health and safety	403 Occupational health and safety	○	○	●	○	○	○	○	4-2.4 Management of laboratories

2.6.4 Development Strategies and Management Directions

Cooperating with the prospect of NUK, featured university with international reputation, five strategic objectives were established according to the major issues and different aspects from the previous section. The core objectives are stated as follows:

List of major topics and management directions

Explanations	Teaching and learning	Research and industry-academia cooperation	Campus facilities and environment	Internationalism	Organization and administration
Major topic	<ul style="list-style-type: none"> • 201 Economy performances • 102-16 Values, principle, standard and action regulation • Appendix 2 School customized topic 	<ul style="list-style-type: none"> • Appendix 2 School customized topic 	<ul style="list-style-type: none"> • 302 Energy • 306 Sewage and wastes • 305 Emission 	<ul style="list-style-type: none"> • Appendix 2 School customized topic 	<ul style="list-style-type: none"> • 102 Strategies and analysis • 401 Management and labor relationship • 403 Occupational health and safety • 404 Training and education
Objecti	Pursue teaching excellence and implement the combination of learning and using	Encourage interdisciplinary research and promote the outcome of application research	Promote space planning and build sustainable environment	Enhance international competitiveness and open international vision	Build sustainable operation, fight for resources and coherence among alumni
Policies and promises	Promote course reformation, enhance practices and integration courses, facilitate more teacher's innovative teaching, develop interdisciplinary integration courses/programs, strengthen courses and industrial connection to enhance students' employment competitiveness and professional English capability	Make good use of industrial regional strength and cooperate with national development policy, build relationship with nearby industries by cooperation memo, industry-academia plan, talent cultivation and technology exchange and promote teachers' technology and match industry cooperation to enhance the cooperation and research energy between teachers and industries so that our school can have a smooth transition with national focus industry	Maintain the good reputation of "Green University", devote in the promotion of energy saving and four savings plan and continue to fight for engineering budget subsidy from government department to make the campus facility more environmentally friendly	Enhance the reputation and internationalism of our school effectively by practical strategies such as enhancing number of exchange students and the number of contracts with sister school.	Complete organizational structure, enhance teachers', staffs' and employee welfare and enhance the satisfaction of graduates from our school in industries
Responsibilities	<ul style="list-style-type: none"> • Research and development office • Office of teaching affairs • Office of student affairs • Extension education center 	<ul style="list-style-type: none"> • Research and development office • Each college 	<ul style="list-style-type: none"> • Office of general affairs • Environment, health and safety center 	<ul style="list-style-type: none"> • Office of international affairs 	<ul style="list-style-type: none"> • Office of student affairs • Secretary office • Human resource office
Actions	<ul style="list-style-type: none"> • Promote teaching excellence and talents cultivation plan • Promote self-learning interdisciplinary discovering program • Promote English Tests, EGP and ESP • Promote Industry-Academia Certification employment program 	<ul style="list-style-type: none"> • Promote strategy alliance integration plan • Promote diverse promotion for teachers • Establish award and propaganda regulation • Amend and expand award methods 	<ul style="list-style-type: none"> • Continue to promote five-province plan • Promote friendly campus and wetland trail plan 	<ul style="list-style-type: none"> • Promote international quality certification • Amend scoring part of the award regulation • Amend award regulation and prepare subsidy • Make deep efforts in exchange with higher education in east asia 	<ul style="list-style-type: none"> • Develop human resources and complete financial structure • Promote the integration of featured talents with local industry • Hold activity regularly to enhance recognition feeling • Activate alumni association and fundraising system
Resource	Externally, NUK fights for funding from Ministry of Education, project from MOST and industry-academia cooperation; internally, NUK enhances resource integration and organization reformation.				
MAppealm	If each stakeholder discovered any susceptible matters against ethics and integrity, he/she can report to the school through webpage, telephone and during meetings.				
Evaluation	Responsible index achievement rate will be filled in by responsible unit every half year and review regularly.				
Estimation results for	<ul style="list-style-type: none"> • 1-3.1 Financial management • 3-1 Teaching quality • 3-2 Software and hardware facilities • 3-5 Academic ethics 	<ul style="list-style-type: none"> • 3-4 Academic research quality and quantity • 3-8 Advanced studies and extension education operation 	<ul style="list-style-type: none"> • 4-3.4 Carbon emission • 4-2.2 Management of water resources • 4-3.1 Electricity-saving measures • 4-2.3 Management of wastes • 4-4 Management of campus sustainability 	<ul style="list-style-type: none"> • 3-7 International exchange and international partnership 	<ul style="list-style-type: none"> • 2-3 Risk analysis • 1-2.2 Human resource management • 4-2.4 Lab management
management	The objective value for the next three years will be filled in by responsible unit at the beginning each year according to the achievement rate.				

Educational Effectiveness

I. Higher Education Evaluation and Accreditation Council of Taiwan passed all four items, self-positioning of the school, institutional governance and operation, teaching and learning resources, performances and social responsibilities during 2017 University Institutional Evaluation. Every single college and department of NUK passed the evaluation.

II. Education performance of NUK is substantially presented in the following: recognition on industry-academia development and technology innovation, rich internationalism outcomes, collaboration between teachers and the industry, innovative teaching materials developed and implemented for students' learning outcome system to present learning performance. NUK obtained 991 project plans from MOST, government department, non-government department and enterprise industry-academia cooperation during 2013-2017 with monetary amount over 760 million. Student's practice field was created by using geographical environment strength. Every school year, there are over 200 students who participate in internship outside the school to enhance their employment competitiveness and industry-academia cooperation opportunities. Our international exchange is dense and frequent. We have up to 290 international sisters' schools. Up to 917 exchanged students visited NUK in 5 years. Up to 404 students were exchanged abroad. Based on the features of our school and the strength of locating at the heart of Southern Taiwan Technology Hallway, NUK promotes "Featured talent interdisciplinary cultivation program" certified by enterprises jointly. In total there were 14 programs completed enterprise joint certification. NUK developed MOOCs with innovation and created NUK MOOCs digital school to develop the school's featured courses. There were 17 courses opened during 2013 to 2016. There have been 10,015 people registered and took those courses up to now and only 1,051 students completed the courses. This means on average the rate for completing the courses was 10%.

III. Overall, the matching level of learning and using in graduates of our school reached 75%. The employment rate after students graduated for three years has reached 88.2%. The satisfaction level of employers reached 80.1%. Single donation amount from enterprise reached 40 million. This shows that the education outcome of NUK has been recognized by all fields in the society.

- 3.1 Teaching Quality
- 3.2 Resources of Library
- 3.3 Appropriate Review, Control, Examination System and Measures for Institutional Governance
- 3.4 Quality and Quantity of Academic Research
- 3.5 Academic Ethics and Integrity
- 3.6 Student Learning Outcomes
 - 3.6.1 Promotion of Student Learning Management System and Overall Outcomes
 - 3.6.2 Implementation of Sound Learning and Guidance from Mentor System
- 3.7 International Exchange Programs and Partnership
- 3.8 Continuing Education and Promotion of Education Operations



3.1 Teaching Quality

I Our courses included teaching by industrial specialists. NUK stipulated "Regulations for selecting industrial specialists to implement team teaching" to enhance teachers' practical experiences in industry. From academic year 2013 till now, cases of teachers participating in industrial practices and team teaching by industrial specialists have increased each year. There were 14 programs completed in enterprise joint certification. In the year 2017, 444 industrial specialists participated in teaching 265 courses and in total, 8,134 students took the course.

Courses with team teaching by industrial specialists

	# of industrial specialists	# of courses taught	# of students took the courses
School year 2014	88	33	835
School year 2015	91	53	2,147
School year 2016	123	67	2,370
School year 2017	142	112	2,782
Total	444	265	8,134



II

Teachers participated in course and teaching materials innovation and enhance digital teaching capability.

NUK encourages teachers to develop innovative digital teaching materials, try flipping classroom and enhance teaching energy. Regarding of MOOCs, NUK planned four course groups according to the features of each college, department and local development, including Southeast Asian Language, Kaohsiung Study, Globalization and Regional Development and Featured Single Professional Courses. There have been 17 courses launched till now. NUK signed cooperative MOU through Central and Local Public Agency (Public Affairs Human Resource Development Center, General Human Resources and Administration Office, Executive Yuan and Human Resource Bureau of Kaohsiung City Government, etc.) and promote MOOCs of our school to "e level public affair park" online learning platform. Till today, 10,015 people have taken the courses and 1,051 people completed the courses, which gives a course completion rate of 10%. Among them, 4 courses were launched in "e level public affair park" with 840 people registered and 113 people completed the courses, giving course completion rate 13%. The outcome is good.

NUK digital school MOOCs course planning

Name of the courses / Time when the course was opened for the first time	# of times the course is opened	# of people registered	# of people completed
Taiwan history and culture 102-2	7	1,091	5
Globalization and diverse culture 102-2	3	606	7
Globalization progress and trend 103-2	6	1,126	19
Chinese and vietnam dual language teaching 103-1	2	321	2
Ocean environment and ecology conservation 103-2	3	1,607	775
Food, drink and living culture	4	513	0
Love designing! building personal innovative good by hand 104-1	1	585	23
Vietnamese - intermediate level (I) 104-2	1	249	0
Vietnamese - intermediate level (II) 105-1	1	90	0
Sightseeing vietnamese (I) 104-2	2	579	52
Sightseeing vietnamese (II) 105-1	1	167	0
Siamese – basic level (I) 104-2	4	1,743	124
Siamese – basic level (II) 105-1	3	671	44
When the pollution will come to my house – Environment Engineering Process 104-2	2	261	0
Globalization and southeast asia 105-1	2	319	--
Loving Kaohsiung 105-1	1	87	--
Total		10,015	1,051



Holding skill enhancement workshop for teachers to enhance learning knowledge and skills of teachers.

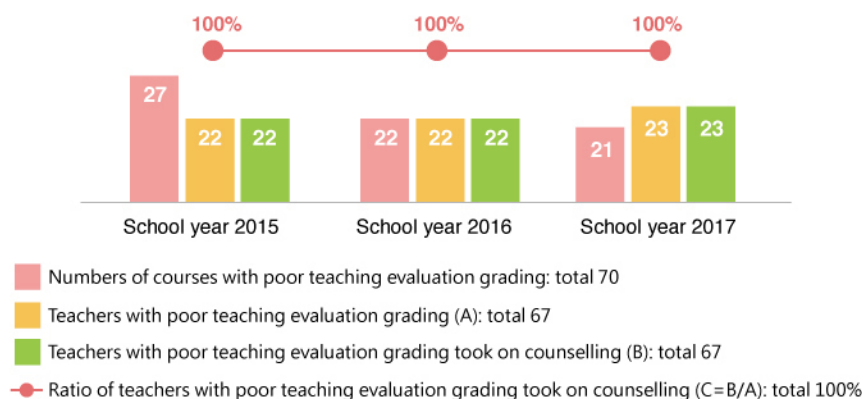
Help teachers conduct teaching, research, services and conduct teacher's mentor team activities. Topics include promotion of teaching affairs, on-line teaching platform, utilization of digital resources, apply for courses from Ministry of Education and Program Plan Experience Sharing, submit academic journal experience sharing, teachers' promotion and teacher's evaluation experiences sharing and application experience sharing and MOST application experience sharing.

(I) Teaching satisfaction in our teachers tends to positive stable development. The level of teachers' teaching satisfaction reached 88.4%. The percentage of teachers with poor teaching evaluation results receiving relevant guidance measures from Teaching Consultant Committee reached 100%.

Relevant quantified index for teaching opinion survey

	104-1	104-2	105-1	105-2	106-1	106-2
Average score	4.41	4.44	4.44	4.42	4.51	4.53
Level of satisfaction	88.2%	88.8%	88.8%	88.4%	90.2%	90.6%
Answer ratio	81.54%	82.28%	86.86%	80.54%	84.3%	77%

Teaching evaluation status



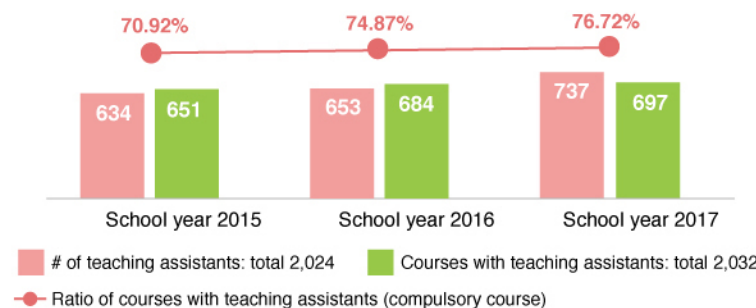
(II) Grant Teachers with Teaching/Research Awards: NUK established "Regulations for Granting Award to Excellent Research Teachers", "Regulations for Granting Award to Excellent Teachers in Industry-Academia Cooperation", "Regulations for Granting Award to Excellent Young Scholars", "Regulations for Granting Awards to Teacher on Academic Publications", "Regulations on Subsidy for New Teachers", "Regulations for the Establishment of Chair Professor" and "Regulations for Establishment of Distinguished Processor"

Statistical chart of luring and awarding excellent talent in school and outside the school

Item	School year 2015	School year 2016	School year 2017	Total
Lured and retained full-time (part-time) chair professor	0	1		1
Lured and retained full-time (part-time) distinguished professor	4	3		7
Excellent research teacher	2	2	2	6
Teaching excellent teacher	3	3	4 (including 1 teaching innovation award)	10
Excellent mentor	3	3		6
Excellent industry-academia cooperation teachers	2	2	2	6
Excellent young scholar	3	3	2	8
Special excellent talent recognized by ministry of education	8	5	Due	13
Research award subsidy to universities by MOST	44	41	38	123
Promoting excellent personnel for teaching plan	4	Reviewing		4

(III) Teaching Assistants (TAs) are accompanied with courses to enhance teaching quality and provide learning guidance.

Statistical chart of courses with teaching assistants



3.2 Resources of Library

The resources of our library includes books (including Chinese and foreign books), one-volume edition journals, electronic information (including electronic database, electronic journals, electronic books, etc.), non-book information (including visual-audio information and geographical information), current books and newspapers (including newspapers, Chinese and Western journals), etc.

Statistical Chart for the Collection of Library and Information Center

		East language	Western language	Total
Books	Books	265,585	57,408	322,993
	One-volume edition journals	16,508	12,345	28,853
Journals	Subscribed journals	175	82	257
	Free journals	290	14	304
	Subscribed newspapers	7	1	8
	Free newspapers	1	0	1
Non-book information	Visual-audio information	16,035	2,214	18,249
Electronic resources	Database	40	64	104
	Electronic book	285,920	149,420	435,340
	Electronic journals	4,475	10,622	15,097

Other than general reading zones and book stack room, the Library and Information Center of our school also includes the following regions to match different needs of the readers: 1,038 reading seats with network points and wireless network for the convenience of readers. We also provide 6 discussion rooms (3 with projectors) for teachers to conduct teaching activities by using library resources and for students to discuss homework among each other. 23 small research rooms are provided for graduate student to use by application in order to conduct research on paper-related topics. Visual-audio zone has placement zone for visual-audio information, personal visual-audio zone (48 seats), video playing zone (12 seats), music listening zone (24 seats), database searching zone (8 seats). In addition, there is a multi-function auditorium and two group auditorium for readers to use the multimedia visual-audio information to conduct teaching, research and learning.

Regarding information technology equipment aspect, NUK provides complete network equipment, wireless equipment all kinds of information safety protection equipment (such as intruding detection, firewall, etc.) , flow control equipment, email equipment, computer teaching equipment, server equipment and information equipment supporting environment, etc. In the past 3 years, the accessibility of network service reached over 99% every year and the number of major information safety matters in every season is smaller than 3. There was no operation interruption due to information safety matter. So, our promotion outcome is excellent. In August 2017, NUK imported Google G Suite service application for teachers, students and staff in campus. In 2018, NUK planed a school-wide response webpage platform system, it was expected to organize and centralize the webpages of each unit to the structure of the same platform to reduce the operational costs of each unit effectively. This not only enhances friendliness of webpage, but also increase number of people browsing and the user stickiness as well as enhance indirectly the outcome in world university ranking. The optical fiber routes of each building in campus originally applied the ultrafast Ethernet (Gigabytes/sec, abbreviated as 1Gb) structure connection. After importing 10Gb Ethernet structure, the linking and storage speed in campus enhanced 10 times and the network speed of overall campus bone structure was enhanced. In addition, in order to enhance the convenience of connecting terminal –end device to network, teaching, high volume and high-speed wireless network base station supporting 802.11 a/b/g/n was constructed in research and administration offices in campus. At the same time, it is a dual stack network structure supporting IPv4 and IPv6 that can connect all kinds of mobile devices, desktop computer, notebook computer and pads.



3.3 Appropriate Review, Control, Examination System and Measures for Institutional Governance

The review and control system and methods for institutional governance includes the review on teaching quality and students' learning outcome and the review on administration measures. They will be described as follows:

I Teachers and teaching aspect

(I) According to Teachers Promotion Regulation, Teacher Evaluation Regulation, Teaching evaluation Regulation, Teaching guidance Implementation Regulation, three-level teacher evaluation committee will conduct professional review on teachers and Division of Academic Affairs and Center for Teaching and Learning Development will provide teachers with professional growth guidance.

(II) "Teaching Consultant Guidance Implementation Regulation" was amended to enhance the teaching performances of teachers with "more than two subjects below 3.5 in the teaching opinion survey" and revise their teaching skills. It was originally stipulated that the office of teaching affairs will notify such teacher and department chief thereof. Now, in addition, such teacher shall conduct test teaching in micro classroom at the beginning of the semester and video-filming teaching process at least once and will be listed as guidance and consultation-controlled cases.

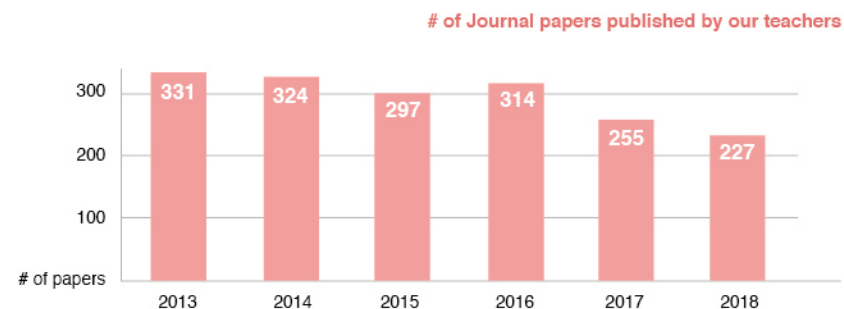
(III) To comply with full English courses and continue to advance teaching evaluation system, our school added the third part of the questionnaire "full-English course" to provide feedback and references for teachers and for the consideration of subsidy in order to optimize teaching quality.

II Student learning aspect

NUK passed "Implementation Regulations on Learning Quality Guarantee" during the 4th teaching affair meeting on June 14, 2016. According to such regulation, different layers will be in charge of student learning quality in three aspects, quality assurance of student learning outcome, quality assurance on both courses and learning and quality assurance on and professional. "Learning outcome-oriented teaching education" is used as core and with the education objectives ad core capabiliti accompanied es of our school to conduct and designing, teaching implementation, course planning g assessment, tracking of learnin outcome and teachers' teaching advance students' learning and dev elopment.

3.4 Quality and Quantity of Academic Research

I Status of papers published by our teachers in SCI, SSCI, A&HCI, TSSCI, etc. journals each year during 2013-2018. During 2013-2018, the average publication amount was 1.02 and in that year period (2013-2018), 3 teachers published 9 highly referenced papers.



II Teachers in our school implement MOST project, subsidy from government agency and entrusted plans as well as industry-academia cooperation plan during 2014-2018. There was a total of 1,171 cases with monetary amount over 1,000 million.

of project plans and amount from MOST, government and industry-academia cooperation

Year	Project plan from MOST (Including Industry-academia cooperation plan)		Subsidy from government agency and entrusted plans		Project plans from non-government agency and industry-academia cooperation	
	#	Amount (NT\$)	#	Amount (NT\$)	#	Amount (NT\$)
103	131	93,104,588	61	70,190,877	53	17,833,514
104	134	96,657,698	48	74,411,790	57	19,167,025
105	121	87,076,654	53	80,906,550	56	17,542,712
106	107	92,826,638	68	151,373,430	57	18,886,110
107	101	96,087,022	78	99,648,585	46	20,497,257
Total	594	465,752,600	308	476,531,232	269	93,926,618

III

The patents application and technology transfer outcomes have been grown stably. During 2013-2018, there was an average of 18 patent application case each year, an average of 6 technology transfer case each year. The technology transfer amount in 2018 is in total over 5 million.

IV

Our teachers have obtained Mr. Wu Dazhao Memorial Award from MOST, Hou Jin-Dui Outstanding Honor Award, domestic and foreign awards with their research invention, served as edit member of domestic and foreign well-known journals, international well-known academy fellow, international research technology member, general editor of international journal. There were in total 36 people.

V

During 2013-2016, our teachers have been conducting 4 double side joint cooperation research projects with research team in India, Italy and Russia. In addition, there were 3 cases of academic research and teaching plans were conducted with The Academy of Korean Studies, The Sumitomo Foundation, EU Education, Audiovisual and Culture executive Agency, EU EACEA.



3.5 Academic Ethics and Integrity

The formal full-time staff of our school includes teachers, public servant, janitors, recruited personnel with institutional funds, etc. For teachers with administrative work, public servants, janitors, they will be regulated according to the service laws for public servants. Recruited personnel with institutional funds also applied the same.

Other than the fact that our teachers are regulated by teachers' law, NUK establishes "Implantation Regulation on Academic Ethics" in order for the researchers to understand relevant regulations on academic ethics and build relevant systems for academic ethics. Starting from Dec. 1, 2017, the host who applied for MOST project plan for the first time and the researchers participated in the listed MOST project plan in the application shall complete at least 6 hours of academic ethics education course training within three years before the date when the research plan is applied. After the project plan has been conducted, the hired researchers who implanted MOST project plan for their first time shall complete 6 hours of relevant courses on ethics education course training within 3 months.

In respond to "Principles for handling academic ethics cases in colleges and above" from Ministry of Education, "Key Points for the Treatment and Review of Academic Ethics Cases" from MOST and "NUK Academic Ethics Case Review Method", NUK established "Key points for Project Researchers' Academic Ethics Cases" to ensure the objective and fair treatment process on the academic ethic violation cases occurred related to these project plans and create academic self-regulated system.

List of laws and regulations shall be complied by personnel of each identity



Teachers

Teachers' law, Principle of part-time handling of full-time teachers in public schools, Principles for handling academic ethics cases in colleges and above, Key Points for the Treatment and Review of Academic Ethics Cases, NUK Academic Ethics Case Review Method, Key points for Project Researchers' Academic Ethics Cases.



Teachers with administrative work, public servants, janitors

Public servant Disciplinary law, Public servant service law, Public servant administration neutral law, Public servant conflict of interest regulations, Public servant property declaration law, Public servant service principles, Public servant Civil servant integrity ethics, Anti-Corruption Act.



Recruited personnel with institutional funds

Key points of NUK recruitment of administrative assistant, Management Regulations on the Recruitment of NUK school recruited, Personnel Working principles for NUK school workers.

3.6 Student Learning Outcomes

3.6.1 Promotion of Student Learning Management System and Overall Outcomes

Students in school management system used students as the center to conduct teaching planning and emphasized in the cultivation of four movement power, **Adaptive Learning Capacity, Interdisciplinary Mobility, International Mobility and Lifelong Learning Capacity**. This is done to enhance students' diverse competitiveness. Hence, through course planning and review, guidance system for course selection, implementation of course teaching contents and the connection to practices, industry and social development trend, strengthening students' employment competitiveness, etc. Students' learning outcome are supported and assessed by using the in-school management system.

NUK student admission in-school management system diagram



I Adaptive Learning Capacity:

Provide diverse learning module and accompany with three teacher guidance system to implement students' adaptive development and combination of learn and use.

(I) Complete course planning, promote "course distribution" to facilitate students' adaptive learning and combination of learn and use. To deepen the daily university program and promote course distribution and supplement practices, the professional courses of 20 departments have been divided into "academic type", "practical type" and "double track learning type" according to the properties of course contents in order to highlight different course materials and teaching format in "academic research", "professional application" and "double track learning". Complete "basic course, core courses (common core courses, distributed core courses), distributed conclusive courses" course modules have been built.

(II) Freshman Summer Pre-course, Anchor course (University Beginner Course), Career direction guidance and career planning.

(III) Build complete course selection guidance system to help students in course selection and learning plans. Establish key points and notice for course selection and review the course selection system regularly according to practical demands.

(IV) Through early warning system for students' learning outcome, learning guidance and tracking are provided promptly. Establish "Implementation key points on students' course guidance" and continue to enhance early warning system for learning outcome. This is not only for students who had obvious early warning of "not passing over one-half of the subjects in the previous semester", but also enhance "potential early warning" (failed grade in mid term exam). Early warning and learning guidance may be conducted on the students with poor learning outcome in mid term.

(V) Complete department transfer and double major/minor system.
To provide students with cross-field, diverse learning and opportunity to change track, NUK has built complete double major/minor and transfer system (regulations on double major/minor and transfer) to help students with adaptive and diverse development.

Mid-term early warning, guidance and rectification status

		School year 2015	School year 2016	School year 2017	Total
# of people guided	Mid-term one-half early warning course guidance (A)	62	69	61	192
	Mentor caring one-half situation students (B)	124	68	61	253
	Overseas Chinese and foreign students early warning remedial teaching or care (C)	11	10	11	32
	Previous semester end one-half course guidance (D)	308	290	231	829
	Total # of people guided (A+B+C+D)=(E)	505	437	364	1,306
Being dropped out due to academic grades (F)		39	22	16	77
Rectification rate 100-(F)/(E)*%		92%	95%	96%	94.1%



II Interdisciplinary Mobility:

Promote industry-academia certification program, encourage self-discovery of second skills, facilitates students' diverse cross-region development and implement teaching contents, which are connected with practices, industry and social development trend.

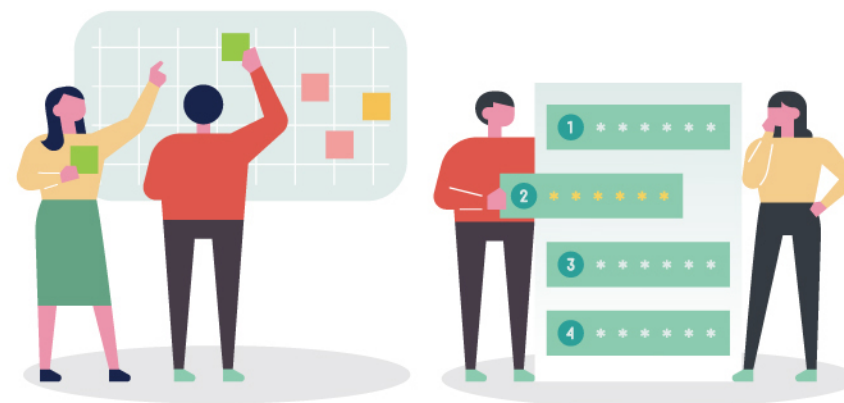
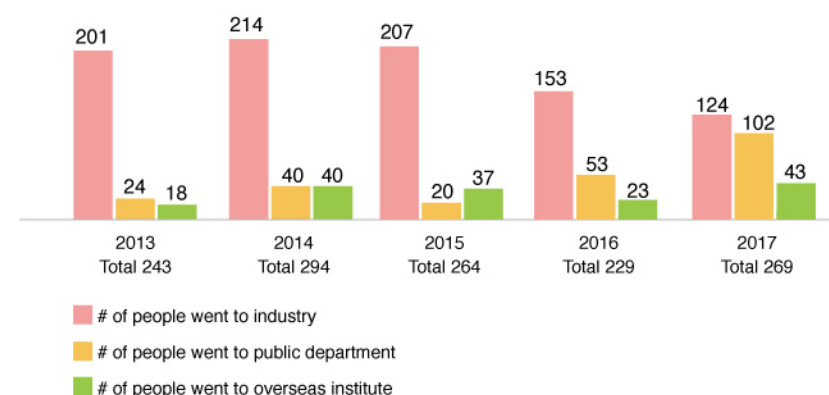
(I) NUK promotes interdisciplinary program system, imports "Enterprise joint certification employment program" and integrates industrial resources in course planning to ensure students' learn and use joint capability. Currently, there were 19 school level program 5 college level program and 11 department level program with interdisciplinary credits. Among them, 15 programs have earned enterprise joint certification. During 2013-2017, there were in total 427 students acquired program certificates.

of students obtained featured talent program certificate



(II) "Regulations for students' practice outside school" was established to create school-wide practice guidance system, cultivate students' core employment capability and encourages department and institutes to launch outside school practice courses. Each school year, there are over 200 students practice outside school. Till the school year of 2016, there were in total 288 industry-government-academia cooperation. With the outside school practices, the gap between learn and use may be shortened. Moreover, the industry-government-academia institute outside school can understand more about the industry-academia energy and student's skills.

Status of students' off-campus internship



III International Mobility:

Enhance internationalism service quality, create friendly double language campus and refine international substantial higher education exchange.

(I) To promote "EMI courses", NUK establishes "Teacher subsidy regulations for EMI courses" to encourage teachers to apply for EMI courses. The EMI course obtained the subsidy will be assessed appropriately on its outcome as the reference for the promotion of English taught course planning and review and rectification.

English-Medium Instruction (EMI) Courses

	EMI courses	Total courses launched in school	Ratio of EMI courses	# of students taking EMI courses
School year 2015	134	2,415	5.55%	3,486
School year 2016	146	2,433	6.00%	3,653
School year 2017	125	2420	5.17%	3,186
	405	7,268	5.57%	10,325

(II) EMI course was established, including IMBA and "Sustainable Engineering and Science EMI Credit Program", "Finance Management and Information Application EMI Program", etc. NUK encourages students to pursue the programs and obtain certificate for EMI program. In addition, according to "Regulations on the Implementation of Graduate Qualification Examination on English Proficiency", the requirement of graduate qualification on English proficiency may be exempted with the certificate.

(III) Promote cross-country joint degree system: By signing joint degree system, movement energy of international learning of our students can be enhanced while making international connection to institutional development.

(IV) Establish exchange student plans and foreign enterprise practice, encourage students to study abroad to open up international vision. The selection of exchange students has been enhanced as twice a year from the original once a year. For example, Department of East Asian Languages and Literature has stipulated that students shall complete domestic or foreign enterprise practices with over 200 hours during winter and summer vacation before their senior year of college and obtain certificate with qualified score. NUK obtained subsidy from learning sea series project of Ministry of Education with 16,007,381 where nearly 250 students were granted.

(V) Scholarships and course guidance system were provided to recruit excellent foreign students.

List of scholarship for international students in NUK

Name of the scholarship	Sponsored unit	Sponsored amount/year	Sponsored # /year	Averaged sponsored amount per person /year
Scholarship for excellent overseas Chinese graduate students	Ministry of education	120,000	1	120,000
Learning support funding	Overseas Chinese committee	175,560	Around 7	24,600
Scholarship for excellent learning action	Overseas Chinese committee	10,000	Around 2	5,000
Donated scholarships for overseas Chinese students	Overseas Chinese committee	10,000	Around 2	5,000
Scholarship for overseas Chinese students	NUK	20,000	5	4,000
Scholarship for Hong Kong and macau students	NUK	5,000	1	5,000
Foreign scholarship	NUK	90,000~120,000	Around 3~5	Bachelor's 20,000 Master's 30,000
Special scholarship	NUK	1,200,000	Around 30	20,000~100,000



IV Lifelong Learning Capacity:

Build up soft skills and basic capability for career, strengthen legal governance education and service learning and enhance all-round civil base in teachers and students.

NUK established "Rules for standard of establishment and examination of students' basic literacy and core capacity" to deepen the root (Chinese, English, Information, Basic Capability Common to Colleges and Legal Quality) to cultivate students' lifelong learning capability. Since 2013-2015 daily programs, in all departments have established core capabilities and graduate threshold.

Cultivation Plan and Review System for Students' Basic Capability

Basic capability	Cultivation plan	Review system
Chinese basic capability	<ul style="list-style-type: none"> Small class reading/writing courses Advanced selective courses (practical writing courses) Chinese hundred reading plan 	<ul style="list-style-type: none"> Chinese writing skill exam Chinese basic skill exam (reading and understanding capability)
English basic capability	<ul style="list-style-type: none"> Level/class separated courses (EGP) Writing skill cultivation Interest selective courses Professional English courses (ESP) 	<ul style="list-style-type: none"> Pre-/post- English exam English writing skill exam School graduate threshold
Information basic capability	<ul style="list-style-type: none"> Introduction to computer science, Network theory, office software suite, information network safety, information quality and ethics Develop information capability and cultivate digital teaching materials 	<ul style="list-style-type: none"> Basic information skill examination School graduate threshold
Basic capability common to colleges	<ul style="list-style-type: none"> Integrate teacher and course resources Develop common core basic courses among colleges 	<ul style="list-style-type: none"> Exams among each college
Legal quality	<ul style="list-style-type: none"> Democratic rule of law education Living law knowledge Professional application law courses 	<ul style="list-style-type: none"> Listed as school graduate threshold in school year 2017 Develop time by time question database exam system

(I) Deepen basic capability cultivation mechanism to ensure students' basic core capability.

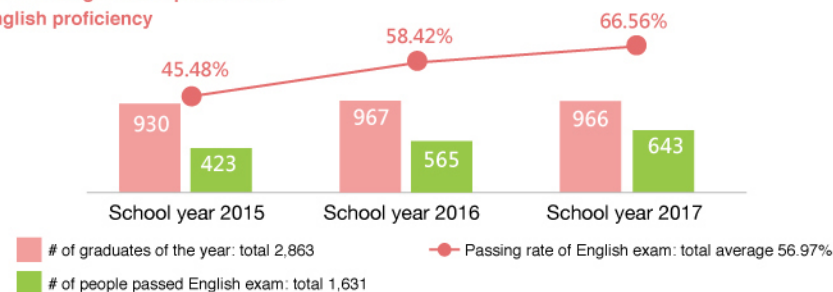
1. Cultivation of English basic capability:

Implementation regulations on the graduate qualification examination on English proficiency was established to enhance students' English proficiency and strengthen their employment competitiveness. In addition, pre-test, English examination were held; professional English proficiency was strengthened (EMI courses and programs); sophomore year advanced English selective courses were planned to be added. For those who did not pass the graduate qualification on English proficiency, they need to take the advanced English course and obtain a passing grade. Since the implementation of English graduate threshold, the passing rate of English examination has been enhanced by year.

Threshold for Graduate Qualification of English Proficiency

# of people obtained program certificate	# of people obtained program certificate	# of people obtained program certificate
GEPT	Higher than intermediate level or first test of high-intermediate level	Higher than intermediate level or first test of high-intermediate level
TOEFL-ITP	510 or higher	457 or higher
Internet-based TOEFL	64 or higher	57 or higher
TOEIC	590 or higher	550 or higher
IELTS	Level 5 or higher	Level 4 or higher
English exam of NUK	590 or higher	550 or higher
Department adopted	Department of east asian languages and literature, department of applied economics, department of asia pacific industrial and business management, department of finance, department of information management, department of life sciences, department of electrical engineering	Department of kinesiology, health, and leisure studies, department of crafts and creative design, department of law, department of government and law, department of economic and financial law, department of applied mathematics, department of applied chemistry, department of Applied physics, department of civil and environmental engineering, department of computer science and Information engineering, department of chemical and materials engineering

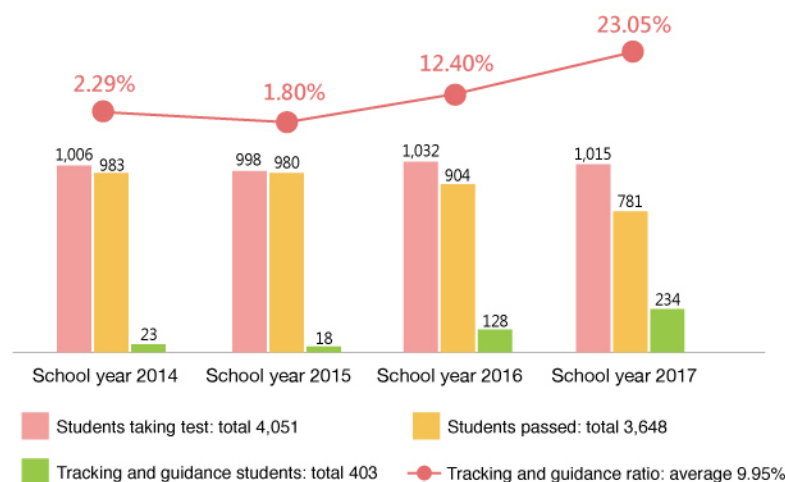
Threshold for graduate qualification of English proficiency



2. Cultivation of Information basic capability:

Establish the implementation regulation of graduate qualification examination on information capability and implement the cultivation of students' basic information capability. The passing standards for the graduate threshold for information capability is to attend the information capability examination held in school and obtain score 60 or higher to be qualified. The content of the examination includes "Introduction to computer science", "Network theory", "Office software suite", "Information network safety" and "information quality and ethics".

Status for the examination of information and communication technology (ICT)



Examination content: introduction to computer science, network theory, office software suite information network safety and information quality and ethics.

Examination format: 50 test questions; score 60 or higher will be considered as qualified.

3. Cultivation of basic capability of Chinese:

Implement small class system and launch Chinese writing and reading course with the spirit of TA adaptive guidance, strengthen Chinese capability of sophomore year to senior year student, build the reading and writing atmosphere in campus and hold Chinese writing capability examination. Among them, according to "Chinese writing capability index and writing capability examination evaluation standards", examination is held every semester. Accompanying courses to enhance writing core capability comprehensively to level 4 (full score is level 5) to ensure students' Chinese writing capability.

4. Cultivation of legal quality:

NUK is the only university in KaoTungPing Region with complete college of law. With the featured profession of college of law, NUK adds "legal quality" as the school-wide common basic capability and as the graduate threshold and guides all department to complete the establishment of "Professional Application Type Law Courses". In Jan. 2016, "Legal quality" was established to be graduate threshold and the "NUK professional application type legal course establishment, credit recognition and graduation condition regulations" was passed. During the 2nd semester of the school year 2015 to the 2nd semester of the school year 2016, "professional courses for legal quality" were established. The organized data is shown in the following table (the full score for teaching opinion survey is 5).

Organization list for the professional courses on legal proficiency

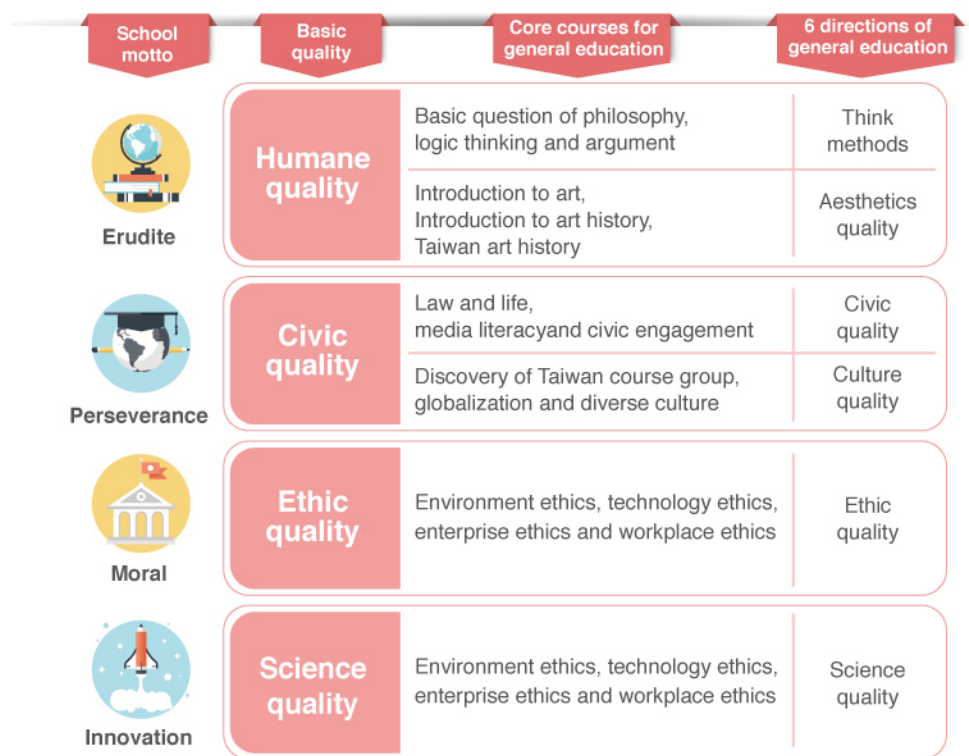
	104-2	105-1	105-2	106-1	106-2
# of departments	7	10	13	11	11
# of courses	7	8	11	9	8
# of students taking the course	279	321	398	427	266
Teaching opinion survey	4.34	4.45	4.46	4.24	4.50

5. Promoting college basic capability examination to examine "College Common Basic Capability" :

Encourage each college to select one course as common core basic course and hold basic capability examination. Currently, NUK has held "College Basic Capability Examination" (Civil Law and Criminal Law) for College of Law; "College Basic Capability Examination" (Calculus, General Chemistry and General Physics) for College of Science, "Calculus Examination" for College of Engineering. College of Law has held the examination for the fifth year with total 1,115 students participated. College of Science has an cumulated total of 1,213 students participated. 2016 Calculus Examination held by College of Engineering has in total student participation of 241. After the examination, a guidance seminar was held to track the student who did not reach the standard score.

(II) Value Humane quality and technology innovation and implement all-round education
The self-positioning of our school emphasizes cultivation of humane quality under professional education. Hence, we applied core general education course design to strengthen the humane care under the ideal of "all-round education". The establishment of students' basic quality and core capability index realizes the education spirit of the school. By integrating school motto, from top to bottom, the concept has been implemented to all level of teaching units. The focus of the cultivation education on school defined basic quality and core capability was implemented into the planning of "core general education course module". Through the 6 directions of course planning of core general education course module to cultivate the basic spirit of "all-round education" with students' humane reflection, scientific attitude, construction of value perspective.

The 6 directions of general education and school defined basic quality and index of core capability



3.6.2 Implementation of Sound Learning and Guidance from Mentor System

I Promotion of three industry three teachers guidance

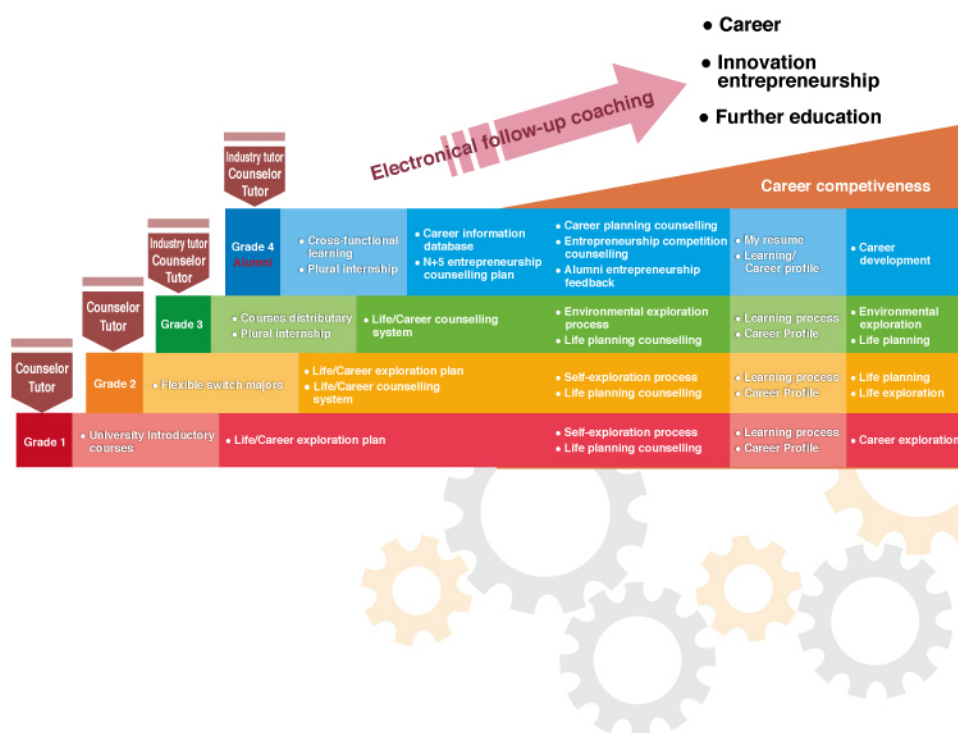
In order for the school to create adaptive career guidance system, NUK added industrial mentor other than the original school-wide teacher mentor system to cooperate the existing mentors in departments and colleges and school consultants (collectively known-as three teachers). They will track and rectify and guide students to have adaptive development according to questionnaire survey database Electricize, hoping that they can create entrepreneurship, employment and continue their education (collectively known as three industry) after education.

- (I) Regulate mentor system, conduct regular intellectual training for mentors, hold regular mentor meetings, enhance career counselling training skills for mentors. Every student is assigned a mentor. In principle, one mentor takes care of maximum 30 students. Every teacher serves as mentor in our school.
- (II) Regulate implementation methods of mentor system, formulate a counselling team of school teachers, industry mentors, and professional counselor to provide students comprehensive trinity adaptive counselling for students' career planning.
- (III) each department recruit practical professionals, industry experts, and experienced school teachers or alumni, to guide students in life or career planning and counselling, to help students understand industry development and employment trends, and develop students insight and attitude for future career.
- (V) electronical follow-up coaching records: by means of both mentor's educational plan (EP) and the database of students' learning process and career profile (including results from Lai's Personality Inventory for freshmen, COLA, Measurement of career development & barrier, and UCAN measurement), to provide reference for trinity mentors. Furthermore, build up a positive feedback loop relating students' personal performance in various career lectures and workshop to the education cloud of My NUK.

II Providing students with professional mental consultation and guidance support

- (I) NUK established exclusive mental consultation unit and recruited 3 exclusive consultants with professional certificate of consultation psychologist and 5 part-time consultants to provide students with professional consultations, guidance and help. In addition, all kinds of learning and adaptive relevant guidance activities are held regularly.
- (II) To enhance the service to handicapped students with special education needs (special education students). NUK established "resource classroom" and established 2 mentors for the resource room to provide care and guidance on the living and school adaptation for special education students. Each semester, NUK established individual support plan (ISP) and held ISP meeting regarding new students, transferred students and those with individual discussions.

Three industry three teachers guidance system diagram



Promoting Demo course of Standard evaluation of student learning outcomes

	Learning effectiveness assures course quality, teaching quality, and teaching assistant improvement	Tutor system. (three teachers and three experts)	Early warning system for at-risk students	Others
Department	<ul style="list-style-type: none"> Course review forum Pathway course for senior high school students university Introductory courses Jurisperitus course English-Taught Courses Departmental curriculum committee Departmental course quality plan Promote demo course of student-centered evaluation of learning outcomes Teaching assistant system Co-lecture with industry expert Course distributary 	<ul style="list-style-type: none"> All lecturers are tutors Department excellent teacher Industry tutor 	<ul style="list-style-type: none"> Personal caring and study counselling of at-risk students Midterm early warning of learning effectiveness 	<ul style="list-style-type: none"> Curriculum mapping improvement Student learning profile Cross-functional exploration course Student off-campus internship Follow-up of students' learning effectiveness
College	<ul style="list-style-type: none"> United assessment College curriculum committee College course quality plan Student basic ability development (Mandarin, English) 	<ul style="list-style-type: none"> Inter-college tour tutor meetings College excellent teacher 	<ul style="list-style-type: none"> At-risk student course selection counselling (college of science pilot exercise) 	<ul style="list-style-type: none"> Cross-functional talent cultivation Industry common certified courses
University	<ul style="list-style-type: none"> Graduation threshold Teaching survey and school curriculum committee Gap tracking between Learning and Applying School course quality plan Encouraging English-taught courses Mechanism of course distributary Mechanism of co-lecture with industry expert Jurisperitus development promotion Teaching assistant management and review system 	<ul style="list-style-type: none"> Tutor Knowledge improvement workshop School excellent tutors Student tutoring system Three teachers and three experts system 	<ul style="list-style-type: none"> Set up mechanism of early warning and counselling 	<ul style="list-style-type: none"> Student off-campus internship Cross-functional exploration course Cross-college credit course

3.7 International Exchange Programs and Partnership

I Partnership with international industry field

The University has signed a total of 3 center-level industry cooperation memorandums with the international industry, which are the Qingchuang Park Makerspace Incubator in Pukou District, Nanjing, Shanghai Lingang Marine Science and Technology Enterprising Center, Beijing Global View Technology Incubator Co. LTD. The Executive Master of Business Administration (EMBA Center) has developed an International Executive Master of Business Administration (IEMBA) program in Vietnam, Haixi, Shanghai, and Thailand. The enrolled objects are the senior executive of local Taiwanese enterprises or the senior executive of the enterprises in Taiwan. The senior executives of the enterprises actively participate in the activities of the Taiwanese Chamber of Commerce in Vietnam. This University is currently a member of the Vietnam Taiwanese Chamber of Commerce and one of the founding members of the Entrepreneur Association. Until the 2016 academic year, we have gone to 30 overseas internship institutions to expand the opportunities for our students to participate in international exchanges and cooperation activities, and to cultivate professionals with international vision and practical experience. Through the matching of the University's Industry-University Cultivation Center, we promoted the cooperation between the professors in the University and the local industry-University of Vietnamese enterprises to raise the international reputation and popularity of National University of Kaohsiung.

II Partnership with international government agencies

- (I) The University has helped the Ministry of Foreign Affairs Republic of Korea conduct 4 tests of Proficiency in Korean since 2013.
- (II) The University serves as the "Taiwan and Vietnam exchange French company elites program Cooperative certification authority for the enterprise united certification program" for Vietnam Economic and Cultural office in Taipei.

Featured talent program	Achievement
Number of Universities that have already had essential exchange with the University	191
Number of exchanges between partner Universities and the University	667
Number of visits of the partner Universities within 5 years	190
Number of visits to partner Universities within 5 years	91
Visiting exchange students within 5 years	1,382
The count of the exchange students studying abroad within 5 years	450
Number of seminars held in cooperation with partner Universities	26
The exchanged and visiting teacher counts of the partner Universities	64
Other cooperation times	65

The cooperation and exchange situation of the partner university

III Partnership with the international academic field

We have 334 international partner Universities, including 299 in Asia; 20 in Europe; 9 in North America; 4 in South America; and 2 in Oceania. The cooperation projects include exchange students, exchange professors, and joint dual University system. Through University Alliance Forum of Taiwan and Mainland China, we connect the "Southern Taiwan University International Exchange Strategy Alliance (ST9)" and the "China University Excellence University Alliance (E9)", and the Forum shall be held by the member universities by turns every year. Through the "Edu-Connect Southeast Asia Association" and the University of Philippine system, a total of eight branch Universities signed an academic exchange agreement, and established a platform for academic matching exchanges between Taiwan and the Philippines to promote the new development of academic exchanges between the University and the Philippines. The University has cooperated with the Vietnam National University, Hanoi since 2013 and became the first university in Taiwan to conduct the International Vietnamese Proficiency Test. Since 2016, in cooperation with the New Southbound Policy, the University has cooperated with the Chulalongkorn University in Thailand to become the only university in Taiwan to conduct the Chulalongkorn University Proficiency Test. In addition, we have signed a double master's degree with the Rangsit University in Thailand, and selected outstanding students to the overseas Taiwanese companies and factories in Thailand and Vietnam on visiting and probation. Also, we head to Vietnam, Thailand for JEMBA. 5 overseas special classes were established, and we assisted Indonesian scholars to improve their research capabilities, becoming a domestic Southeast Asian talent cultivation center and the think bank of Southeast Asian Taiwanese business people. Since November 2018, UPOU&NUK has formed a teaching alliance and established the "PLC@NUK" to promote Taiwanese culture and raise Taiwan's international image of international migrant workers.

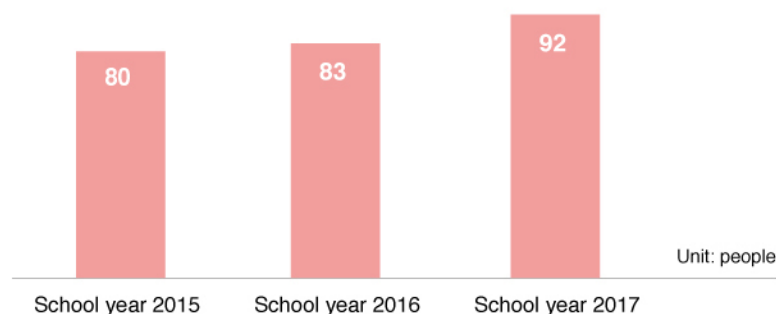


IV Encourage students to go abroad for exchange students and enterprise internship and expand international perspectives.

The University handles exchanges to the foreign partner university and enterprise internship for students every year. Through moving to other countries, students may learn professional knowledge of different cultural fields and improve foreign language ability and employment competitiveness.

- (I) The number of students studying abroad for short-term research has increased significantly: Since the beginning of Academic Year of 2009, the University has implemented the student study abroad program. The number of student going abroad for exchange in the past five years has continued to increase, and it grows steadily every year, which has reached to 92 students in 2017 Academic Year. Besides continuing to provide scholarships to encourage more outstanding students to go abroad, and expand the training and counseling activities before going abroad, we invited students studying abroad (exchange students) to share the experience of studying abroad, invite foreign universities to the university to conduct a briefing session of joint degree program to provide students with more options for studying, and encourage participation and other supporting measures.

The statistical diagram of the number of students studying abroad



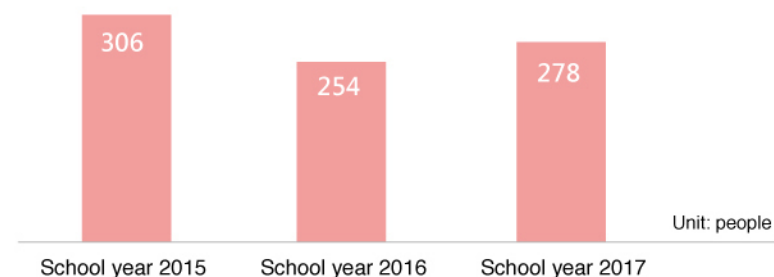
- (II) Internships in foreign companies: Encourage students to go to Japan, Korea, Vietnam and other countries for internships. We have obtained the grants of NT\$19,567,612 from Xuehai series of the Ministry of Education since 1996 (including Xuehai Feiyang, Xuehai Xizhu, Xuehai Chumeng, Xinnanxiang Xuehai Chumeng).

- (III) We provide grants for teachers, students and departments individually to participate in international conferences, and reward the excellent teaching unit with international exchange to improve the participation energy of the teachers and students for international activities. The University's Sprout Project promotes the International Angel Project, expects the participation of teachers and students, enhances students' willingness to go abroad, and deepens the quality of studying abroad for exchange.

V The number of foreign exchange students has increased steadily in recent years. Successfully attracting international students to enroll

In order to expand the recruitment of foreign exchange students, the University actively expands overseas recruitment and publicity, and establishes partner-school cooperation with foreign universities to increase the number of foreign exchange students. In recent years, the number of exchange students has increased steadily. However, due to cross-strait relations and policy influence, the number of China exchange students coming to Taiwan has been tightened since 2016 Academic Year, which also affects the number of foreign exchange students to the University. To avoid the impact of cross-strait policies, the school has actively promoted the Asian area and expanded the development in Europe and America. Coping with the New Southbound Policy, the cooperation with the second-class universities becomes closer.

Statistical diagram of exchange students coming to the University



3.8 Continuing Education and Promotion of Education Operations

The University has close cooperation with local enterprises, and the school-level cooperation memorandum that we have signed with the industry has accumulated to 27, and the central-level cooperation memorandum has accumulated to 13. Based on the cooperation memorandum, we cooperate with the industry in joint certification programs, student out-of-school internships, industry-university cooperation project, and establishment of industry -master programs or lectures at the University. Our cooperation institutions include: Advanced Semiconductor Engineering, Inc., LITE-ON Technology Corporation, Kaohsiung CYCDA, NXP Semiconductors Taiwan Ltd., Nonprofit Corporation Industrial Technology Research Institute, Air Asia Company Limited, Formosa Plastics Corporation, and etc. Taiwan Environment and Porite Co., Ltd. have been engaged in industry-university cooperation with the University for a long time. We set up a dedicated lecture hall at the College of Engineering, and work in coordination with teaching; ENRESTEC and Futeng Technology Company LTD. participate in the talent cultivation program of the Industry-University Cultivation Center to jointly cultivate the talents required by the companies.

Related cooperation institutions



I Collaboration with local government units

The cooperation memorandum signed by the University with government units has accumulated to nine. We have agreed with school-level "industry-university cooperation" memorandums with, for example, the Export Processing Zone Administration and Benjhou Industrial Park Service Center, Gangshan Township, Center of Economic Development Bureau, Kaohsiung City Government, assist to match the industry in the park and the University to conduct industry-university cooperation and student internships, and to serve as external members of the University's industry-university-related conferences; we also signed a "Disaster Prevention Technology Research and Application Cooperation Agreement" with the National Science and Technology Center for Disaster Reduction and signed a MOOCs cooperation memorandum with Civil Service Development Institute, Directorate-General of Personnel Administration, Executive Yuan. In addition, we have signed court-level "Government and Law School Exchange Cooperation" memorandum with, for example, Taiwan Kaohsiung District Court, which opened "Court Practice", "Prosecutorial Practice" courses in the University, and provide summer internships from the students to the Kaohsiung District Court. In addition, the school cooperates with Workforce Development Agency, Ministry of Labor, Kaohsiung, Pingtung, Penghu, Taitung Regional Branch to assist in various vocational training courses to train professionals.

Related cooperation government units



II Collaboration with the local academia

The University has now entered into a strategic alliances (or academic exchanges) agreement with 10 major universities to promote inter-school cooperation through inter-school alliances. For example, the National Sun Yat-Sen University, the cooperation project includes the joint subsidy of the teachers' research and development plans of the two Universities, the mutual participation in the industry-school matching activities, and free of credit based on the reciprocity principle for the inter-school course selection of the day school; we have signed a cooperation memorandum with two universities (signed by the Industry-University Cultivation Center); we have signed a domestic exchange student cooperation agreement with 5 universities to share educational resources and expand the student's multi-learning channels; we participate in 4 academic regional alliances (Kaohsiung Academy, KTP Regional Resource Center for Teaching and Learning, Southern Taiwan University International Exchange Strategy Alliance ST9, Southern Taiwan Universities Alliance, Kaohsiung Edu-Connect Southeast Asia Association), through the integration of university resources to help promote higher education, to further promote the local industry development.

SDGs @ NUK



NUK x SDGs

From the four directions of research, education, organization, and external action, the National Kaohsiung University combines NUK's Sprout Project to help society, enterprises, and the world to understand the challenges ahead, overcome complex socio-economic and environmental challenges, promote sustainable social development and further implement the commitment of SDGs including social care, economic fairness and environmental sustainability.

Organization and Governance



Integrate SDGs into University organization and operations to affect school culture and surrounding areas

- Integrate SDGs into the school's long-term program.
- We are committed to promoting campus sustainable culture and gradually achieving the ideals of a green university through our Sustainable Development Council.
- Linking to the University's Yunus Social Business Academic Research Center, established in December 2017, we assist students in thinking about their roles and responsibilities in the world to become responsible global citizens.

Research



Promote awareness of the local SDGs issue and assist in solutions

- Count and promote the SDGs researches in which teachers are engaging.
- Cooperate with enterprises and other organizations to hold seminars on issues related to sustainable exhibitions.

Education



Empower sustainable citizen

- Cooperate with non-profit organizations workshops to empower the staff on the issues of SDGs.
- Encourage teachers to set up SDGs courses, integrating existing courses and teaching content.
- Promote 360-degree global citizenship programs, encourage students to collaborate with partner universities to discuss SDGs issues, becoming a "sustainable citizen".
- Promote omnidirectional assistance programs for disadvantaged students to ensure equal educational opportunities from enrollment to graduation and to achieve fairness and justice.

External Leadership



Link external units to expand local and international cross-domain dialogue

- Support teachers to connect courses with local communities for permanent development and lead students to practice in the community.
- Play the role of leadership and integration, to match the community, non-profit organizations, social enterprises and other units to work together to practice SDGs.

4.1 SDGs Courses & Research

- 4.1.1 Matching Teachers to Form Related to a Teaching Community and Set up Interdisciplinary Courses by Sustainable Issues
- 4.1.2 Increase the Number of International Students and International Students' Recognition of Taiwan
- 4.1.3 Enhance Students' Practice of SDGs International Mobility and Cultivate SDGs Dialogue Practitioner

4.2 University Environmental Organization and Regulations

- 4.2.1 Organization and Committee
- 4.2.2 Self-customized Regulations

4.3 Environmental Status & Management

- 4.3.1 Air Quality Status & Management
- 4.3.2 Management of Water Resources
- 4.3.3 Management of Wastes
- 4.3.4 Management of Laboratories

4.4 Energy Saving Strategies

- 4.4.1 Electricity Saving Measures
- 4.4.2 Fuel Saving Measures
- 4.4.3 Paper Saving Measures
- 4.4.4 Carbon Emission Reduction

4.5 Management of Campus Sustainability

- 4.5.1 Green Buildings in Campus
- 4.5.2 Green Procurement
- 4.5.3 Management of Campus Bicycles and Implementation of Courtesy Bicycles
- 4.5.4 Building Various Natural Habitats
- 4.5.5 Campus Stray Dogs

4.6 Environment Education

- 4.6.1 Sustainability Related Courses
- 4.6.2 Relevant Trainings on Environment Education for Teachers and Personnel
- 4.6.3 Activities on Sustainable Development Issues



4.1 SDGs Courses & Research

4.1.1 Matching Teachers to Form Related to a Teaching Community and Set up Interdisciplinary Courses by Sustainable Issues

I

Open innovative thinking courses and develop innovative thinking teaching methodology to drive interdisciplinary cooperation among teachers with sustainable issues and develop cross-disciplinary teaching. According to the Britain "Guidelines for Sustainable Development Goals", we planned the learning objectives of the SDGs to be included in the NUK course's outline system to provide teacher curriculum planning.

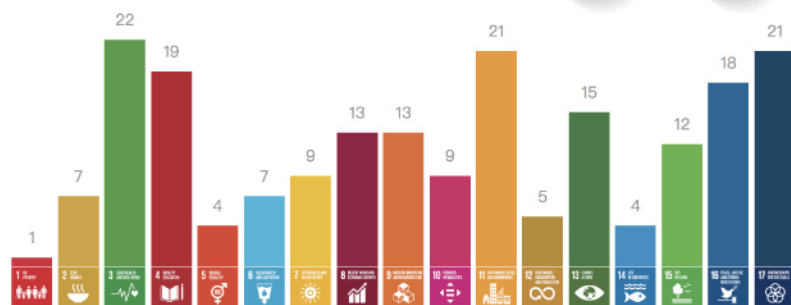
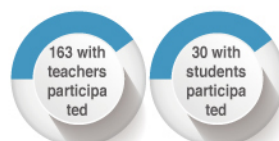
II

Count the relevant sustainable courses and research of the school, and establish a common teaching goal of sustainable courses.

(I) In 2018, the University opened a total of 200 courses related to SDGs and 6,720 counts selected these courses.



(II) In 2018, there were a total of 163 researches related to SDGs which teachers conducted, and a total of 30 research papers and university seminars related to SDGs that students participated.



Number of students registered with SDGs related topics course in National University of Kaohsiung

III

Imagination for Future School (IF School) with non-profit organizations to develop students' ability to suggest proposals for real problems

(I) We signed a letter of intent for sustainable development cooperation with Taiwan Institute for Sustainable Energy and ACEPA, and cooperated with university lectures, corporate sustainable training courses, and SDGs sustainability forum of high education to create sustainable future workshop with the participation of 218 people from the industry, official and university.



Imagination for Future School (IF School) of National University of Kaohsiung connected industry, government and university to hold a sustainable exchange workshop.

(II) Combine the teachers of innovate thinking related courses and the industry resources of SDGs social enterprise action series micro credits to expand future cooperation fields and enterprises. In 2018, we cooperated with NPO Channel public welfare fundraising platform, Baoshan Community Development Association and other units to assist public welfare group products in online marketing. We entered Baoshan Elementary School abandoned school building to combine the local tea industry for the activation design. We also cooperates with social enterprises such as GoodWill Foods, OurCityLove Social Enterprise, and Impact Hub Taipei for the local sustainable practice courses.

Related cooperation unit



(III) Empowering the sustainable citizenship, we held 40 events 2,000 and more than people participated in the activities of sustainable issues.



4.1.2 Increase the Number of International Students and International Students' Recognition of Taiwan

I

In 2018, we established an overseas office in Medan, Indonesia for the first time in conjunction with alumni resources to promote international enrollment and overseas companies' internships. In 2018, we enrolled 32 new foreign students, which is 3.6 times more than those in 2017.

II

A total of 38 teachers and students participated in the Indonesia summer program, including 3 SDGs topic courses, 6 cultural monuments and 2 corporate visits. We discuss ways of energy saving & carbon reduction, environmental protection and sustainable operation in small groups.

III

We established the International Youth Ambassadors Group. In 2018, we trained 30 local students as ambassadors. The training courses were introduced into the spirit of SDGs to cultivate their ability to plan and execute activities. Further, we also handle the cultural fairs and cooking competitions of five international universities in the International Carnival, and exhibit the achievements of the University Social Responsibility Practice Project.

IV

We arranged international students to visit local enterprises for internships, and let them present their observation and suggestion of the sustainable development of Taiwan by films, to strengthen the international students' recognition of Taiwan and the willingness to stay in Taiwan. In 2018, we completed a total of 3 community care videos.



Ribbon-cutting ceremony of the "Office in Medan, Indonesia" of National University of Kaohsiung



Grand opening of the "Office in Medan, Indonesia" of National University of Kaohsiung

4.1.3 Enhance Students' Practice of SDGs International Mobility and Cultivate SDGs Dialogue Practitioner

I

Promote international mobile courses in cooperation with partner universities. In 2018, we set a total of 13 teachers and students to our partner schools in 3 countries (Dear born University in USA, University of Chile in South America, and the Hong Kong Polytechnic University). There are 8 courses related to the sustainable development topics which cover innovation and entrepreneurship, innovation in local cultural industries, reduction of inequality in the country and between countries, basic language courses, and they also visited three enterprises.

II

Promote international mobile courses in cooperation with partner universities. In 2018, we set a total of 13 teachers and students to our partner schools in 3 countries (Dear born University in USA, University of Chile in South America, and the Hong Kong Polytechnic University). There are 8 courses related to the sustainable development topics which cover innovation and entrepreneurship, innovation in local cultural industries, reduction of inequality in the country and between countries, basic language courses, and they also visited three enterprises.

III

Cooperating with the Indonesian Bodhi Heart Mandala Foundation to organize the "Mulan International Co-learning Camp" to arrange for 9 teachers and students to visit the North Sumatra Ecological Protected Area, which is transformed by the oil palm plantation, to understand how coffee farmers may maintain the local rainforest ecology through the local economy establishment and a friendly environment cultivation, which may stimulate the possibility of the students of National University of Kaohsiung of the future social entrepreneurship ideas.

IV

In cooperation with the Southern Youth Academy and the Asian Development Bank, three students of the National University of Kaohsiung went to Korea to participate in the "Asia Pacific Youth Exchange" (APYE), and discussed the global sustainable development issues with more than 120 young people from 19 countries in Asia. The team of international partners and the students of the University won the first prize in the proposal to improve the decline of the traditional meat market, and was awarded by the responsible person of the Regional and Sustainable Development of the Asian Development Bank. In addition, the team of the University won the third prize by the proposal of promoting the quality of children care services.

V

"Internship at the Asian Institute of Technology (AIT) Yunus Social Business Center" in Thailand, served as the volunteers in the World Bank City Resilience Conference of World Bank, planning and establishing a social enterprise focusing on the care of the elderly with AIT tiger leong international innovation and leadership camp.



Students of National Kaohsiung University participating in the "APYE SDGs Training



Students' proposal of National University of Kaohsiung won the first place in APYE

4.2 University Environmental Organization and Regulations

4.2.1 Organization and Committee

I Organization

Environmental Safety and Health Center: The duty includes safety and health, environmental protection and campus planning and etc.

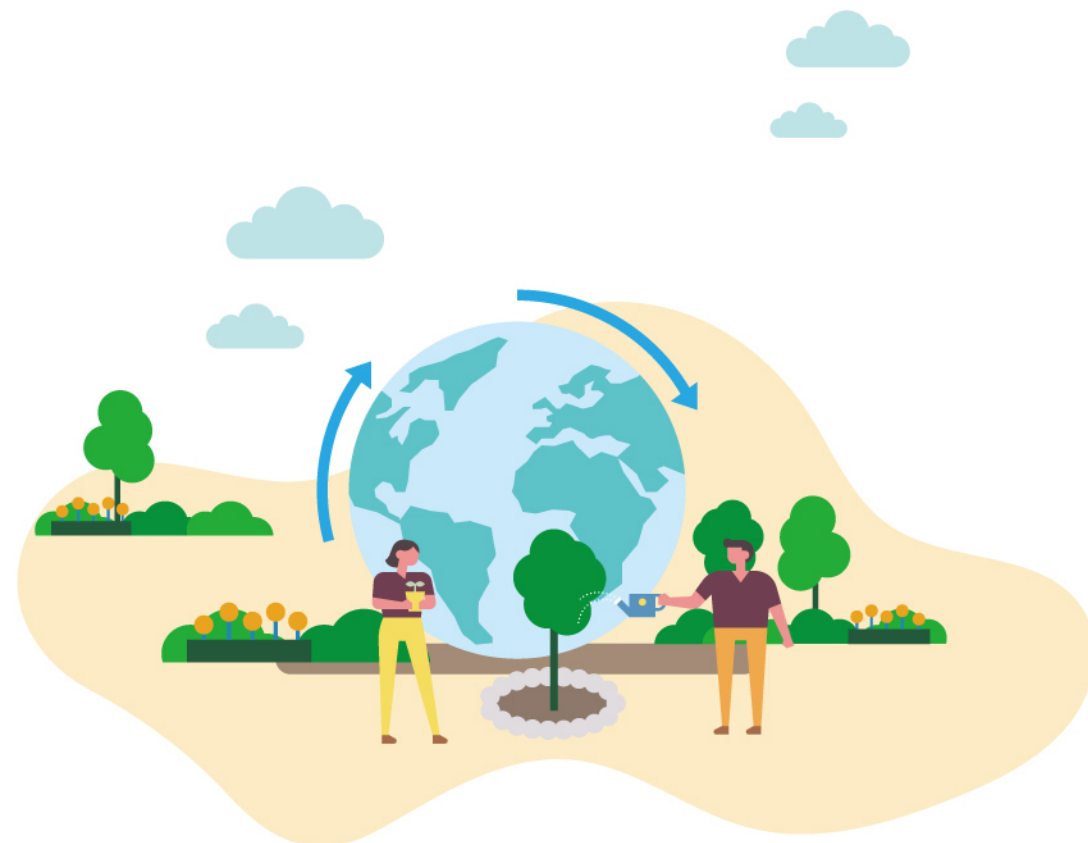
II Eight committees

- (I) Campus Sustainable Development and Planning Committee: To examine and implement the ideal of campus environmental sustainable development mechanism of the University establishment environmental development.
- (II) Environmental Protection and Safety& Health Committee: Maintain the campus environment quality and ensure the experimental operation safety of the faculty, staff and students. It is set up according to the relevant laws and regulations such as environmental protection and labor safety and health.
- (III) Energy Conservation Committee: In order to strengthen the energy management and promote the rational and effective use of energy. It is set up in accordance with the provisions of Paragraph 1, Article 6 of Enforcement Rules of Energy Administration Act.
- (IV) Biological Experiment Safety Committee: In order to protect the experimental safety of the teachers and researchers involved in genetic recombination research, the University set up this committee based on the "Regulations for Gene Recombination Experiment" of the Ministry of Science and Technology.
- (V) Nation University of Kaohsiung Animal Care and Use Committee: In order to supervise the management and use of laboratory animals, it is set up based on Paragraph 1, Article 16 of the Animal Protection Act. The English name is Nation University of Kaohsiung Animal Care and Use Committee (NUKACUC).
- (VI) Public Art Executive Group Meeting: According to the Culture and Arts Reward Act, public artwork funds shall be compiled. The implementation of each public artwork shall be based on the Regulations Governing the Installation of Public Artwork.
- (VII) Public Artwork Selection Group Meeting: It is set up for the selection of public setting program.
- (VIII) Public Art Appraisal Group Meeting: After the public artwork is set up, the appraisal group meeting is going to conduct the appraisal.

4.2.2 Self-customized Regulations

Currently, there are six regulations relevant to campus environmental safety and health in the University.

1. National University of Kaohsiung Environmental Safety and Health Policy.
2. National University of Kaohsiung Safety and Health Management Regulations.
3. National University of Kaohsiung Laboratory Safety and Health Code of Practice.
4. National University of Kaohsiung Business Waste Disposal Regulations.
5. National University of Kaohsiung Environmental Protection and Occupational Safety and Health Committee Setting Regulations.
6. National University of Kaohsiung Environmental Safety and Health Center Setting Regulations.





4.3 Environmental Status & Management

4.3.1 Air Quality Status & Management

I Outdoor air quality

We promise to select Chungshan Senior High School and Yuanjhong Elementary School as the air quality monitoring spots near the campus in accordance with the University's environmental impact assessment manual.

Air quality monitoring statistics in 2018

		Carbon dioxide (ppm)		Sulfur dioxide (ppm)		Nitrogen dioxide (ppm)		Ozone (ppm)		TSP (μg/m³)	PM ₁₀ (μg/m³)
		Hourly average	Average of 8 hours	Hourly average	Daily average	Hourly average	Daily average	Hourly average	Average of 8 hours	Average of 24 hours	Daily average
 Kaohsiung Municipal Chungshan Senior High School	1	0.4	0.3	0.009	0.006	0.018	0.009	0.063	0.049	124	66
	2	0.2	0.2	0.012	0.007	0.013	0.008	0.056	0.037	78	37
	3	0.3	0.2	0.006	0.006	0.020	0.010	0.043	0.029	47	29
	4	0.5	0.3	0.004	0.002	0.026	0.015	0.091	0.065	89	49
 Kaohsiung Municipal Yuanjhong Elementary School	1	0.8	0.7	0.007	0.005	0.020	0.007	0.065	0.050	157	72
	2	0.2	0.2	0.006	0.004	0.010	0.006	0.048	0.039	76	33
	3	0.9	0.4	0.006	0.006	0.032	0.017	0.035	0.029	57	22
	4	0.4	0.3	0.003	0.002	0.027	0.017	0.053	0.037	110	53

II Laboratory gas emission control

There are 94 laboratories with fume hood with forced exhausting equipment in the University, including 55 in the engineering colleges and 39 in the science colleges. The air in the laboratory is collected by the common pipe and processed and discharged by the activated carbon adsorption facility installed in the top floor.

III Indoor air quality management

Indoor Air Quality Administration Act was implemented in 2012 and among the first batch of sites that should comply with the Indoor Air Quality Administration Act announced in 2014, the Library and Information Center of the University is the main managed place. In order to protect the health of the teachers, students and the public, the University installed a set of fixed-point continuous detection modules in the lobby of the second floor of the Library and Information Center in 2016.

Indoor air quality regular inspection data table of library & information center in 2018

Inspection items	Unit	Inspection data	Regulatory standards
Carbon dioxide	ppm	504	1,000
Formaldehyde	ppm	<0.06	0.08
PM10	μg/m³	31	75
Bacteria	CFU/ m3	564	1,500

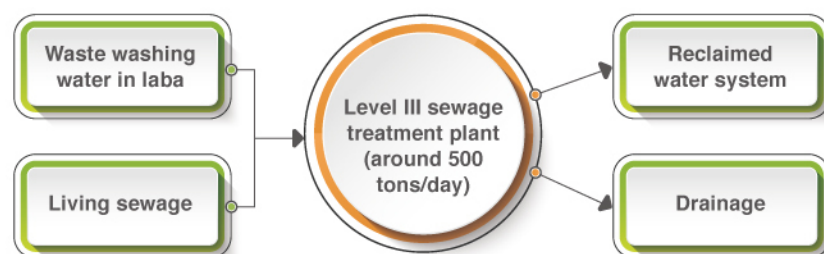
4.3.2 Management of Water Resources

I Sewage treatment system

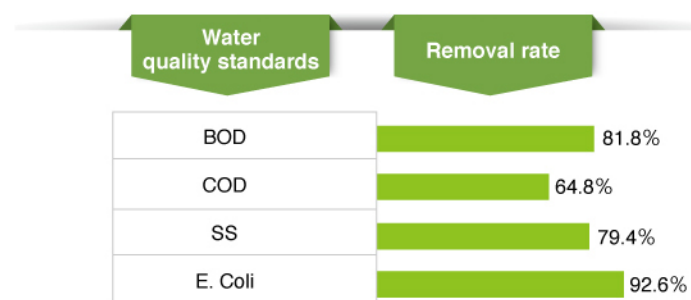
The source of sewage in NUK includes waste washing solutions in the laboratory, living sewage from dorms and offices. Sewage will be collected through pipes and treated in the sewage treatment system. After that it will mainly be drained in the reclaimed water system in campus and used for grass and served as the supplementary water for ecology water channels.

The sewage treatment system of NUK has not only the traditional level II biology treatment, but also additional level III treatment with filters and sterilization by ozone. The effluent quality satisfied the standards for effluent.

Treatment Diagram for sewage in campus



List of removal by sewage treatment plant



List of inspection data for effluent quality and the flow volume of effluent

Inspection item	2016	2017	2018	Drainage standards
BOD(mg/l)	9.6	5.85	4.93	30
COD(mg/l)	33.45	27.1	18.28	100
SS(mg/l)	8.58	8.68	5.88	30
E. coli(CFU/100mL)	10,475	50,650	28,850	200,000
Total grease (mg/l)	3.0	1.3	0.88	10
Water temperature (oC)	26.3	28.3	26.9	35
PH	7.53	7.45	7.7	6~9
Drainage amount (CMD)	53,854	64,372	20,586	-

Remark: The usage of recycled water was reduced and made drainage amount increased greatly due to the organization of ecology pool and water channels in 2016 and the maintenance of sank and broken pipes in the ecology pool system in 2017.

II Drinking water

There were currently 135 water dispensers in NUK. We work to conduct regular maintenance and replacement of filtering materials, cleaning of tanks and disinfection every month. In addition, according to the current laws for the water dispensers, it is required to conduct sampling inspection on at least 1/8 of the water dispensers each season, which is 17. The actual number of water dispensers inspected each season in NUK is 18. For water quality test, we sampled at least 2 water dispensers in each building approximately and sampled once every season in principle.

List of inspection results for water dispenser

Inspection Item	2016	2017	2018	Standards for drinking water
E. Coli colony CFU/100mL	< 1	< 1	< 1	6
Total colony count CFU/mL	< 1	< 1	< 1	None

The water used in NUK comes from the city water provided by the 7th zone management office of Taiwan Water Corporation. The main water source is from Kao-Ping Creek, which is not a water source that will not have huge effect due to water obtained.



Reclaimed water system:

The treated water by the sewage treatment system satisfied the drainage standards. Nearly 100% of it was recycled and stored in the reclaimed water pool in the sewage treatment system. It will be used in the ecology water system of the campus and for watering plants.



Rain recycle system:

The rain storage and reuse system implemented in college of humanity and social sciences will be mainly used for supplementing ecology water system of the scenery lake nearby the building.



Water-saving facilities:

We prepared the budgets each year for replacing the urinals and toilets in boys' and girls' restroom and the faucet on each floor as water-saving equipment.



The practical rectification measures for water-saving in the restroom include two-step flush toilet and NUK Campus internal circulation system for water water-saving toilet.



Reclaimed

After sewage has been treated by sewage treatment system, it is recycled and used in water circulation system and trees/grass watering except big rain period.

Statistical chart for water usage

Inspection item	2015	2016	2017	2018
Period for fee calculation	103/11/19 104/11/23	104/11/24 105/11/22	105/11/23 106/11/21	106/11/22 107/11/21
Water usage degree	163,032	188,022	176,309	203,490
2015 was used as the base year for water-saving range	-	-15.33%	-8.14%	-24.82%
Amount of recycled water	-	117,309	111,621	171,938
Recycle percentage	-	62.39%	63.31%	84.49%

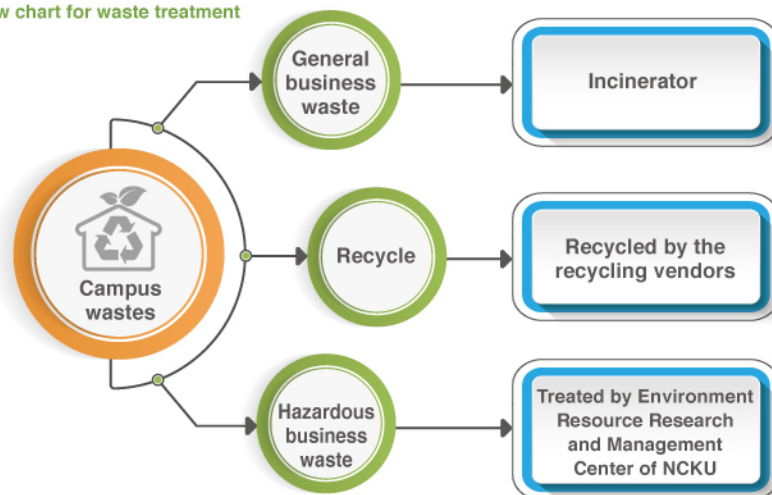
NUK internal water circulation system




4.3.3 Management of Wastes


Waste output can be categorized into general business wastes generated in dorms and offices and recycles and the hazardous business wastes produced in laboratories. For the general business wastes, we entrusted vendors to clean and sent to incinerator. For the hazardous business wastes, qualified cleaning vendors will clean and sent them to the recycle plant of Environment Resource Research and Management Center of NCKU.

Flow chart for waste treatment



List of removal amount of general wastes in 2018

 Hazardous business waste	Cleaning methods	Curing treatment	Incinerator	Physical treatment	Chemical treatment
	Cleaning amount (tons)	0	0	0	5.31
	Accounted ratio	0	0	0	100%

 General business waste	Cleaning methods	Chemical treatment	Physical treatment	Landfill	Incinerator	Recycled for reuse
	Cleaning amount (tons)	0	0	0	238.15	32.221
	Accounted ratio	0	0	0	88.08%	11.92%

4.3.4 Management of Laboratories

I Treatment of hazardous chemicals

(I) The use of toxic chemicals:

NUK has applied the permits for all toxics from Environment Protection Bureau of Kaohsiung Government according to the laws and regulations. Currently, there were in total 65 kinds of toxics. In order to control the procurement of toxics, such information will be organized and submitted to the committee members of Environment, Health and Safety Committee for them to know the procurement situation of the toxics when holding a meeting. The toxic chemicals will be recorded and stored according to the regulations.

(II) Management of toxic chemicals:

1. In order to organize and manage the safety, health, toxics and radiation of practice places, Environment Protection, Health and Safety Committee was established according to the laws and regulations. They will hold the meeting once every season.
2. Environment, Health and Safety Center will conduct guidance in the operational places for each toxic chemical regularly to understand the actual operational status of each lab and conduct guidance on rectification according to its faults.

II Management system for occupational health and safety

NUK has completed stage IV of evaluation and passed certification on July 6, 2016 in order to cooperate with guidance operations of university's safety, health management system in 2016 campus health and safety certification plan implemented by Ministry of Education and the Labor Inspection Office of Kaohsiung Government

(I) Management Organization:







In order to organize and manage the safety, health, toxic, radiation, fire prevention of the working place, **Environment Protection, Health and Safety Committee was established according to relevant regulations. The president will be served as the chairman to hold the meeting for the discussion on major environment safety policies and matters every season and retain records for future reference according to the regulations. The members of the committee include the president, which is the chairman, as well as 3 administration managers, 7 representatives for teachers, 1 representative for staff, 1 representative for students and 1 physician for Occupational Health and Safety. There are in total 13 members in the committee.**

(II) The establishment of occupational health and safety management system:

Occupational health and safety management was established and implemented according to plan Occupational Health and Safety Law, the management of machinery, equipment and including tools, labels and general education on objects and hazardous objects, strategy plan and dangerous measurement on the sample ous working environment and safety and health acquisition in hazard educational trainings, etc. safety policies was established and announced to In addition, health and all teachers, staff and ractors. Moreover, Health and Safety Working students and all subcont Principles were onal Health and Safety Law. Revision there of established according to Occupati passed during was ember 13, 2010 and reported to Labor the administration meeting on Dec Bureau of Inspection Kaohsiung Government for future refere

1. The nce.statistics of occupational injuries in NUK was conducted by Environment Health and Safety Center. Monthly statistical report for the occupational disasters was reported each month on-line and the record was retained for future reference to competent agencies. There were no accidental disasters occurred in 2018.

Statistics and analysis chart for accidental injury in 2018

	Teachers		Staff		School staff	
	M 	F 	M 	F 	M 	F 
Disabling frequency rate (FR)	0	0	0	0	0	0
Severity rate (SR)	0	0	0	0	0	0
Occurrence rate on occupational illness	0	0	0	0	0	0
Absence rate	0.19%	0.09%	0.14%	0.48%	0.52%	0.23%
Total death	0	0	0	0	0	0

Note: FR and SR do not include traffic accidents during commuting (going to and getting off work)

1. Disabling Frequency Rate (FR): $\text{Total number of disabling} \times 106 / \text{Total working hours}$
 2. Severity Rate (SR): $\text{Total lost days due to disabling} \times 106 / \text{Total working hours}$
 3. Absence Rate: $\text{Work Injury Leave} + \text{Sick Days} / \text{Total Woking Days}$
 $(\text{Annual Working Days} \times \text{number of people in genders}) \times 100\%$
 4. Total working hours was accumulated by the working hours each month from human resource office.
2. Inspection operation on environment safety was conducted in laboratories regularly and irregularly. Regarding the unqualified items, the NUK will help the laboratories to rectify the faults and review the rectification progress and cooperate with Ministry of Education in promoting the health and safety certification system in laboratories.

3. Health and Safety Center coope of dangerous machinery and equip rated with Ministry of Education for reporting the quantities ment in laboratories in April and October every year.

Statistics chart for the quantity of hazardous machinery and equipment

Name of the lab	Name of the equipment	Type
Wood plum bamboo design research studio	Grinder	Dangerous machinery
Wood plum bamboo design research studio	Circular saw for wood processing	Dangerous machinery
Magnetic semiconductor lab	Type II pressure container	Dangerous machinery
Nano photoelectric lab	Type II pressure container	Dangerous machinery
Microbiology and biochemistry lab	High pressure sterilizer	Dangerous machinery
Plant biochemistry lab	High pressure sterilizer	Dangerous machinery

4. Regarding the machinery, equipment or tools assigned in regulations, NUK has asked to improve proper protection facilities step-by-step and post the standard operation procedures readily seen on the machinery to satisfy the laws and regulations.
5. Regarding the machinery and equipment used in subcontracted work, NUK stipulated in the contract to ask the subcontractors to comply with laws and regulations. Otherwise, they are not allowed to work. Moreover, the subcontractors should control the usage of these equipment.

(III) The promotion of general education rules for dangerous objects and hazardous objects:

1. The chemicals in the laboratory should conduct categorizing for dangerous objects and hazardous objects and the labelling for drugs in accordance with "Labelling and General Education Guidelines for Hazardous Chemicals" and "NUK General Education Plan for Dangerous and Hazardous Objects". Also, in respond to the promotion of Globally Harmonized System of Classification and Labelling of Chemicals (GHS), NUK adopts lab guidance, educational trainings and asks the drug suppliers to cooperate in the rectification of labeling of chemicals so that the management of drugs in lab will be complied with the regulations of (GHS) step-by-step.
2. The list of hazardous chemicals and safety datasheet thereof were stored in the laboratory for the personnel in lab to read and reference. The storage of dangerous objects and hazardous objects will be categorized and managed according to the properties of the drug in the guided lab. During the inspection by environment health and safety center, they will confirm whether the record has been updated for future reference regularly according to the laws. In addition, warnings were set up at the controlled zones of the special hazardous operational places according to the laws and regulations.
3. According to the lab guidelines, it should be clearly stipulated that food shall not be stored in refrigerators and storage cabinets and it is prohibited to eat and drink in the lab.

(IV) Health and safety management actions for hazardous operations:

1. Risk assessment will be conducted according to the hazards results in each laboratory. Labs were asked to make clearance on the lab conditions. Then the personnel from the Environment Health and Safety Center will assess the hazardous level and help to complete the form. After completing the form, they will also assess whether engineering improvement or artificial improvement is required. The rectification part will be completed with the help from Environment Health and Safety Center.
2. NUK has stipulated Standard Operating Procedures for all kinds of Environment Health and Safety Operations and announced them on the webpage of Environment Health and Safety Centers for all teachers, staff and students to inquire and follow.
3. Measurements on operation environment of labs will be conducted in April and October each year. The hazardous exposure in lab will be assessed according to the type, usage amount and frequency of the hazardous materials in lab and served as the selection for sampling points in the operation environment. If the measurement results for the operation environment was not complied to regulations, they shall rectify the faults promptly to comply with the permitted concentration standards for the hazards.

(IV) Prevention Measures against Occupational Disasters:

1. Radiation inspection was conducted in the operation environment regularly.
2. Management of fire prevention and safety:
 - (1) The fire prevention plan was established according to Fire Prevention Law and implemented firmly.
 - (2) The fire prevention facilities were inspected, maintained and supervised by the entrusted fire prevention equipment company every month. If malfunctions were to be found, then it shall be repaired promptly to maintain its normal functions.
3. Establishment, labelling and management of protection equipment:
 - (1) NUK has prepared protection objects and emergency response equipment, such as chemical absorbent cotton, protection clothing, oxygen supply device for emergency use, anti-toxic masks. These equipment will be placed in readily accessible locations according to the regulations with obvious labels.
 - (2) All laboratories shall prepare adequate quantities of personal protection equipment, emergency medical box and fire extinguisher. We asked the laboratories to stipulate clear regulations on the requirement to wear appropriate protection equipment when entering the laboratory.
 - (3) Emergency shower and eyewash equipment was established outside the lab and the Environment Health and Safety Center will conduct inspection and repair regularly. If there was malfunctions, then we will asked professional vendors to conduct maintenance promptly.
 - (4) Regarding personal protection equipment and fire prevention facilities in the laboratory, each laboratory shall manage these things by itself and conduct maintenance and automatic inspection. In addition, an emergency medical box shall be replaced by the laboratory itself.

(VI) Health and Safety Education and Trainings:

1. Educational trainings for new students will be conducted by professionals invited by Environment Health and Safety Center during each school year with 3 hours of Health and Safety Training Courses. In addition, regarding personnel in lab, 3 hours of health and safety education training are arranged to enhance the implementation of health and safety in lab. In addition, the teachers of the lab will propagate the health and safety guidelines for each lab during the first week of the experimental courses to the students.
2. Educational training for ionized radiation will be conducted once every year regularly with radiation educational training. All teachers and students which will be using radiation equipment shall attend.

List of protection equipment in lab



4.4 Energy Saving Strategies

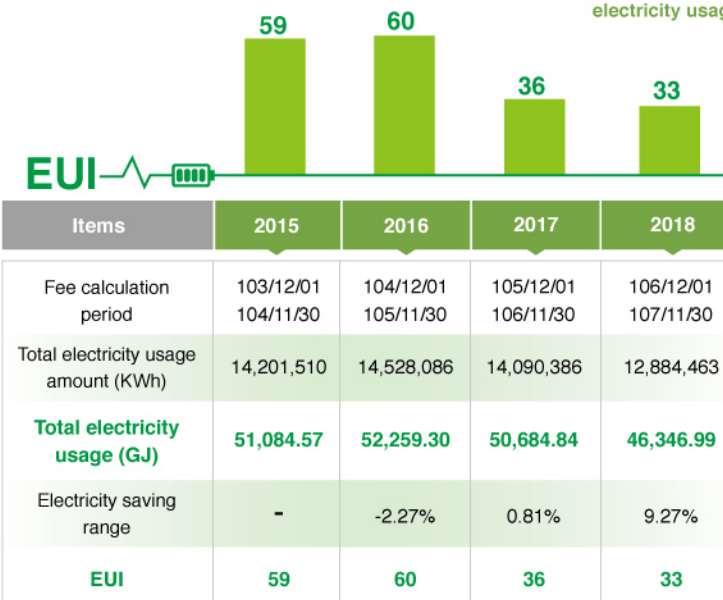
4.4.1 Electricity Saving Measures

The main strategies and actions for the electricity saving measures are as follows:

List of electricity saving strategies and action plans

	Action plans	Explanations
Energy-saving control and management	Central electricity monitoring system	Network function of digital electricity gauge was used to conduct on-line monitoring and controls on the electricity usage of each buildings.
	Implement self-management on spaces	Self-management system on electricity bills will be implemented for each buildings in order to conduct "users pay" policies and save energy.
	Installation of electricity gauge in independent units and outdoor court	Independent electricity gauge will be set up to monitor the electricity usage of independent units and outdoor courts for the affiliated units to conduct electricity calculations and controls.
	Adjustment on the starting and stopping time of air conditioning	Implement the rules that air conditioning will not be supplied for administration building and general classroom during winter season (from December to March next year).
	Adjustment on opening hours of the library and information center	Different opening hours will be established for each space regarding its function and usage frequency. Those spaces will not be opened during Weekends of Winter and Summer Vacations.
	Participate in the demand-based price competition measures of taiwan power company	Participate in the demand-based price competition measures of Taiwan Power Company to save energy and electricity bills
Replace old electricity consumption equipment with new ones	Implementation of intelligent classroom step-by-step	For the project, we applied network cloud technology and used low carbon and energy-saving as our focus to implement intelligent air conditioning schedule management in teaching spaces such as general classrooms and seminar rooms at the 6 teaching buildings of the school. Users may send in real time through course arrangement system and space borrowing system, organize air condition monitoring and database management and implement comprehensive fully automatic air conditioning schedule control, temperature monitoring and the on off procedure control to enhance the correctness and liability in the management of air conditioning for classrooms, reaching the objectives of facilitating sustainable development of environment and enhancing the quality of learning environment.
	Replacing old Air conditioning system with new ones	Budgets were prepared to replace the old air conditioning system with frequency-conversion air conditioner system. Replacements have been completed in College of Science and College of Engineering.
	Replacing lightings with LEDs	Budgets were prepared to replace old light bulbs with LEDs. Replacements have been completed in campus circulating roads, streetlights at the parking lots and the classrooms of each buildings and seminar rooms.
Utilization of renewable energy	Replacing old air conditioning system with new ones	Student dorms adopts solar power hot water system 100% to provide hot water.
	Replacing lightings with LEDs	1. Administration building and College of Law installed solar power panels for electricity generation themselves. The total electricity generated was 36.4 kwp. In addition, they have applied for 15 renewable energy certificates. 2. To cooperate with the "million sun rood" plan, we have installed standard solar power generator system on the roof of all the school buildings. In total, 1,217.76 kwp was installed.

Statistical chart for electricity usage



EUI = Total electricity usage (degree) / Total floor area of the school

The base year was selected as 2015 since it was the base year for the implementation of Central 4 Savings Plan

List of solar power electricity generators

Name of the buildings	Total establishment and installation volume (kwp)	Operation methods
College of law	26.4	REC
Administration building	10.0	REC
College of engineering	209.45	FIT
Parking lot for motorcycles	246.62	FIT
Library and information building	348.395	FIT
college of management	93.81	FIT
1st general building	154.875	FIT
Administration building	57.525	FIT
Student dorm	56.64	FIT
Staff dorm	50.445	FIT

Total: 1,254.16

FIT : Feed-in tariff

REC : Renewable energy certificate

4.4.2 Fuel Saving Measures

- I The cars for public affairs retained regular maintenance and inspection to maintain high-efficiency and oil-saving car type.
- II The cars for public affairs with long history were replaced. Cars with high efficiency and low oil consumption will be bought in priority as the new cars for public affairs.

Statistical chart for oil usage

Items	2015	2016	2017	2018
Gasoline (L)	3,672.00	1,612.66	6,236.45	5,489.40
Diesel (L)		1,955.90	4,373.36	1,326.30
Total oil usage (L)	3,672.00	3,568.56	10,609.81	6,815.70
Oil-saving range (%)	-	2.82%	-188.94%	-85.61%

4.4.3 Paper Saving Measures

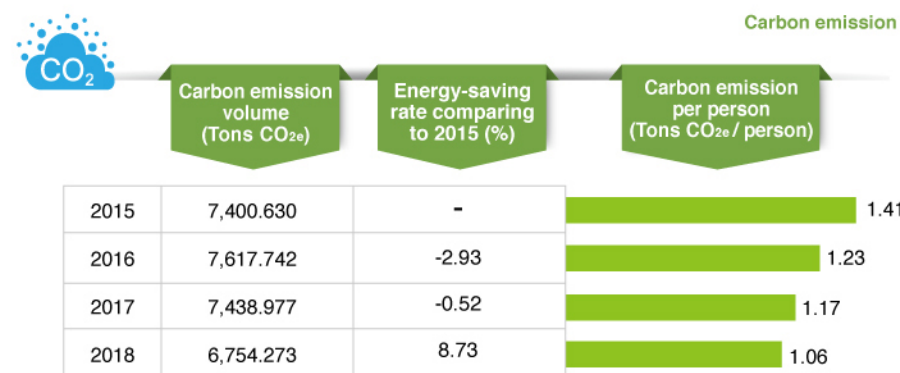
- I On-line meeting agenda was provided before the meeting. NUK advocated to replace paper-based meeting agenda with 3C products such as self-carried notebook computer to reduce paper output.
- II Papers will be used for double sides; waste papers will be reused.
- III On-line letter will be used to replace paper-based letter.
- IV Officially starting from 2014, official document will be in electric form and reviewed online to reduce the usage of papers and enhance the speed for review and approval.

Statistical chart for paper usage

Items	2015	2016	2017	2018
Paper usage (pack)	766	1,184	1,396	1,914
Paper-saving range (%) 2015 was used as base	-	-54.57%	-82.25%	-149.87%

4.4.4 Carbon Emission Reduction

According to the base year defined by the government, 2015, we shall estimate the emission volume of greenhouse gas each year to complete get hold of the current status. Comparing to 2015, 8.73% of carbon emission was reduced in 2018. This is mainly due to the implementation of energy-saving measures, such as changing old air conditioning, using energy-saving light bulbs.



* Carbon emission was estimated by ourselves. The activity data was calculated from the electricity bill. Carbon emission volume was referenced directly from the electricity bill.

* The reason that the base year was chosen to be 2015 is that it is the base year for implementing the central four province plan.



4.5 Management of Campus Sustainability

4.5.1 Green Buildings in Campus

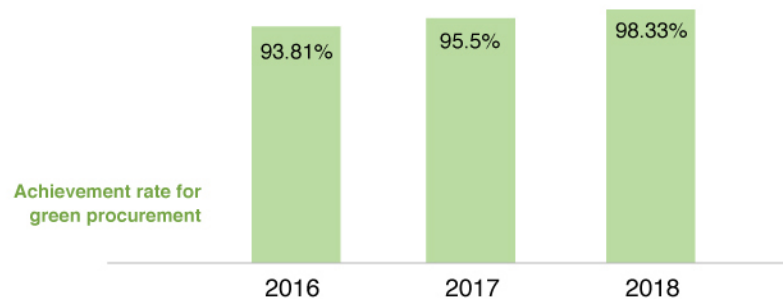
Starting from 2012, the newly constructed campus buildings acquired the green building certified system and obtained the recognition from Kaohsiung Government.

List of green buildings

Buildings	Time	Content of the award
Building for college of humanity and social science	Oct. 2012	Golden green building label with 9 indexes
Building for college of humanity and social science	2013	Participated in the green building prize in Kaohsiung and won public building award, award for rain collection facilities and reuse
Administration building	Sep. 2014	Bronze green building label with 9 indexes
Student 2nd dorm	April 2016	Qualified green building label in living category

4.5.2 Green Procurement

In respond to global warming, reduction on environmental damages by human, "green consumption" was applied to reduce the environmental impact caused by production and consumption.



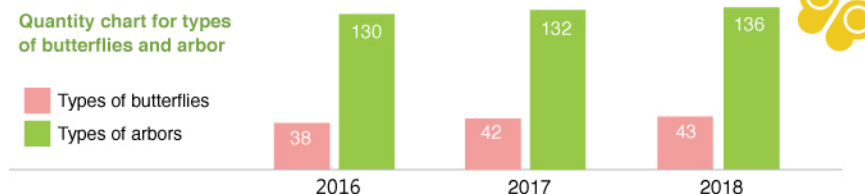
4.5.3 Management of Campus Bicycles and Implementation of Courtesy Bicycles

NUK prohibited motorcycles entering the campus. However, the campus is huge. Roads circulating the campus were planned with 10-meter road with green zones on both sides. Also, there is separate transportation system for pedestrians and bicycles. In addition, NUK promotes courtesy bicycles. The bicycles abandoned by students in the campus were collected and organized and then painted with yellow paint for courtesy bicycles. Moreover, bike lanes circulating the campus were built. Kaohsiung Government also constructed renting station for public bike at the entrance of NUK, which belongs to a part of the bike lanes of Kaohsiung City.

4.5.4 Building Various Natural Habitats

Though having no protected or restored habitats, NUK has a green area accounting for 52.9% of campus area where there are 130 types of arbor due to the devotion in building sustainable ecology environment. The ecological lake is an artificial wetland, which has always been an important campus attractions from the establishment of the school till today. There are in total 36 families and 68 species of birds in the historical records of the school. There are 30 families and 59 species commonly seen in recent years. Among them, precious and rare birds were included, such as Crested Goshawk, Elanus caeruleus, Black-naped Oriole (level II conservation) and Lanius cristatus (level III conservation). Starting from 2019, the campus ecology protection voluntary team has started to conduct investigations on damselflies. Currently, there are 2 families and 15 species. The investigation and monitoring will be continued in the future.

Quantity chart for types of butterflies and arbor



Note: The data for types of butterflies in 2013 was based on the organization of previous campus ecology photo. The data after 2014 was from the monitoring and investigation conducted in the wetlands of NUK.

4.5.5 Campus Stray Dogs

Starting from August 1, 2015 till now, Environment, Health and Safety Center and the Pets Research Student Club have been cooperated together to solve campus stray dog problems. By integrating the promotion with the efforts of teachers and students and seeking the help and guidance from Taiwan Dog Loving Association and Taiwan Animal Loving Association, the treatment of campus stray dogs has gradually become friendly and humane. Tame and controllable and the adoption of regional (close-to-human dogs) dogs were used to control (foreign and wild) dogs and ligation vaccine was given. Also, we regularly listed and controlled campus stray dogs by giving them heartgard, injecting rabies vaccines and conducting medical prevention as well as participating in nongovernmental stray dog adoption party, etc. In addition, campus stray dog webpage was built to propagate the responding methods to campus stray dogs, adoption information and the current status of campus stray dogs, hoping to create a friendly campus environment.

4.6 Environment Education

4.6.1 Sustainability Related Courses

The school opened general education courses related to environment, sustainability, global issues each year. From the statistics for the past 5 years (school year 2013 to 2017), there were in total 21 teachers opening courses; total number of courses reached 104; and there were in total 5,767 students taking the courses. Hence, there were one-fifth of the students in the school each year took these courses on average.

Statistical chart for general education courses on environment sustainability and global issues

Name of the courses	# of teachers	Total # of classes	Total # of students selected the course
Explanations of ecology environment	1	9	396
Overview on natural protection	1	10	577
Ocean ecology and environment protection	1	3	138
Environment pollution and health	1	7	363
Environment protection	1	10	596
Environment sciences	1	1	53
Environment ethics	6	18	967
Environment and human behavior	1	5	267
Environment changes and sustainable development	1	1	24
Sustainable water resources	1	3	169
Globalization and multi-culture	6	37	2,217
Total	21	104	5,767

4.6.2 Relevant Trainings on Environment Education for Teachers and Personnel

Among all kinds of education trainings held by human resource office for teachers and staff each year, there was at least one workshop related to environment education, where relevant issues such as disaster prevention and environment protection were included, so that teachers and staff can acquire the knowledge and skills on environment sustainability issues. The activities held in recent years were as follows:

List of training activities on environmental education for teachers and staff

Time	Name of the workshop activity	# of people participated	Workshop type
Jan. 2014	Ecology workshop for biodiversity location: Dong Shi waisandin barrier island and Si Cao green tunnels	71	Experience activities
July 2014	Natural disasters	57	Indoor workshop
Mar. 2015	Seeing Taiwan	61	Indoor workshop
Mar. 2016	Great River Ireland (Taiwan Wild Nature Propagation Seminar)	46	Indoor workshop
Mar. 2017	Miracles after disasters – Discussions on Global Climate Change	58	Indoor workshop
June 2018	Ecology seminar – “I am a spy for butterflies”	23	Indoor workshop



4.6.3 Activities on Sustainable Development Issues

Ever since signing The Talloires Declaration in 2004, NUK annually initiates a series of activities for “Sustainable Week”, which had become a tradition for sustainable education in our school. Each year, NUK planned activities of different themes and types, and designed education exhibition and activities regarding environment protection. These activities are open to teachers, students, and local residents. Previously, NUK has held activities such as action drama, laboratories, fire prevention drills, road running competitions, and demonstration of electric vehicles to promote green energy, to convey comprehensive knowledge and skills related to sustainable development and environment protection on all aspects to teachers and students. In recent years, we utilize the rich ecology resources in our campus to conduct various activities of environment education. From, you can infer our determination and endeavor on promoting environmental sustainability from the lists of activities during 2012 to 2018 tabulated below.

List of activities during sustainable week in the past years

	Activity content	Number of people participated
2012	Environment education plan - “Dare to dye in campus” during sustainable week	961
2013	Campus seed searching activity – “Seeds, always meet you”	193
2014	“Serial activity on environment education during sustainable week” 1. Seminar on “Butterfly Ecology and Environmental Protection” 2. Planting activity “Secrets of the Honey of Butterflies” 3. Planting activity “Butterfly attracting park”	422
2015	Serial activities on environment education – “Noisy butterflies”	319
2016	Serial activities on environment education – “Noisy butterflies”	400
2017	Environment education workshop – “Tree in heart”	253
2018	Serial activities “Focus campus environment education plan”	257



Opening activities for the beauty of campus



Experience camp on dyeing and extracting from plants



Seed exhibition - “Take on challenges with guts”



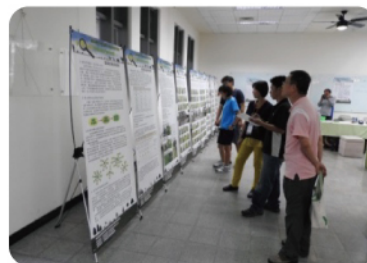
Planting activities in butterfly attracting park



Special exhibition on butterfly portfolio



Environmental education activities - “Stacking up”



Special exhibition on campus biodiversity



Ecology movie theater activities



Environment education activities - “I am a spy for butterflies”



Ecology guided tour for junior high school and elementary school students



Workshop – “Tree in heart”



Wood donation activities - “Scholars love wood materials”

Social Inclusion

5.1 Social Responsibilities and Sustainable Social Caring

We devote to the incorporation with K-12 schools and community through activities and have good interaction with governmental departments and different industries to fulfill the social expectations and responsibilities. For example, we cooperate with Longmu community of Dashu District to propose the Economic initiative of “Happy and New hometown” in Dashu district”. This initiative is awarded the “University Social Responsibility (USR) Project” by the Ministry of Education. We work with the household registration office of Ziguan District to start daily Vietnam conversation experience class for new Vietnam immigrant resident family, and organize the “New Residents Language Teaching Support Personnel Training Class”, and build up the “Senior college program” with 216 class hours to attract 30 elders enrolling as our students since 2017.

- 5.1 Social Responsibilities and Sustainable Social
 - 5.1.1 Required Courses of Service Learning to Construct a Sense of Social Responsibility
 - 5.1.2 Construction of Caring System through General Courses of Service Learning
 - 5.1.3 Community Voluntary Service and Comprehensive Community Development
 - 5.1.4 Assisting Promotion of Diverse Course Taking for Compulsory Education and Local Connection
- 5.2 Enhance Public Interest of Higher Education
 - 5.2.1 Expand Admission Scheme and Enhance Tutoring Service for Disadvantaged Students
 - 5.2.2 Associate Entrepreneur Alumni with Social Responsibility



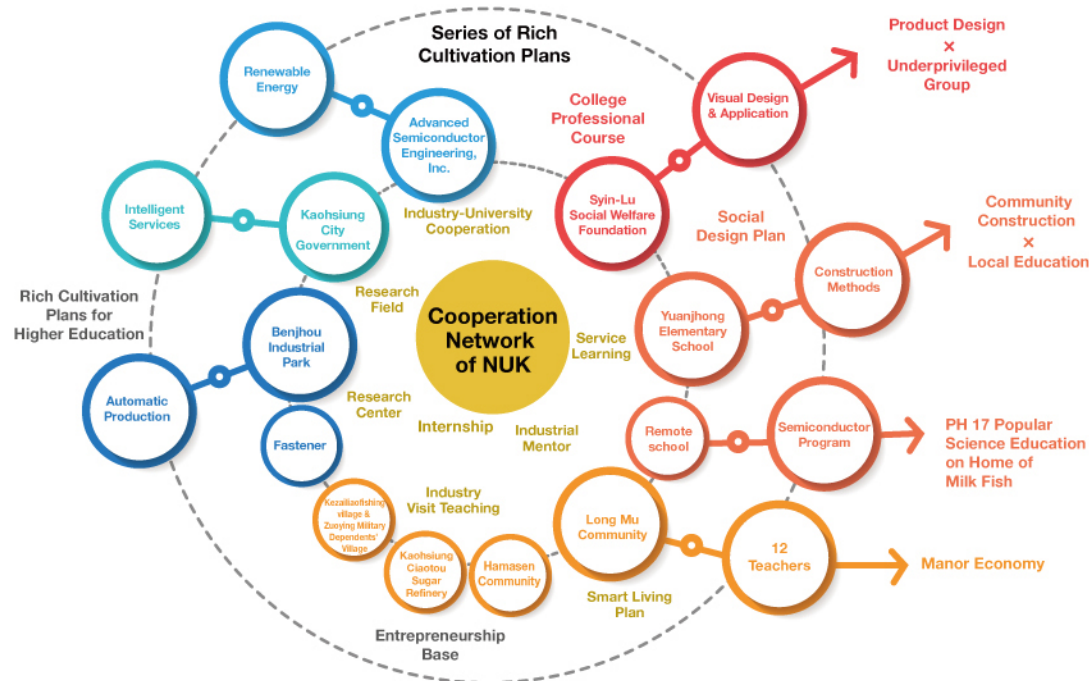
5.1.1 Required Courses of Service Learning to Construct a Sense of Social Responsibility

To develop students with the public spirit of the service community, integrate with theory and practice learned, to achieve the development of Whole Person. The school set up an enforcement rule about courses of developing service-learning, applied to overall students. Each student has to fulfill a one-year compulsory course of the service-learning before graduation (you can split into two- semester course semester in different school year), to construct the basic learning of the social caring and social responsibilities for students. There are about 1000 students enrolled the course per semester. The courses are classified into two types of campus service and off-campus community services.

I Campus service of social responsibilities

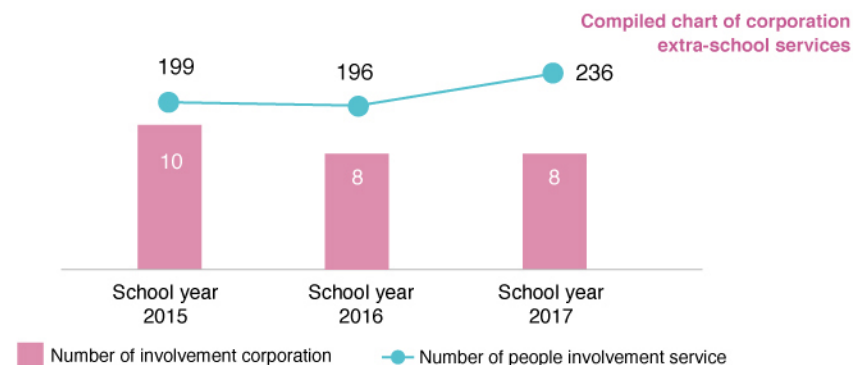
Stick to the principle of establishing service rationale, to involve each teaching and administration unit into providing learning environmental service and promoting the related academic activities. All schemes of the service-learning course provided by different internal units will be reviewed and approved by the Guidance and Counseling Section of the Student Affairs Division.

Utilizing existing local cooperate network to strengthen cooperative relationship



II Off-campus service of social caring

With the principle of fixed-hour and fixed- location service, cooperating with various caring groups, including academic learning of elementary and junior high schools, life guidance units, disadvantaged and public groups, community service or other related service. The student activity section under the division of student affairs will help to audit all off-campus service activities. There are at least seven student activity clubs integrated with service-learning courses per semester, leading off-campus service with diverse service nature.



Basketball teaching



Instrument teaching



Calligraphy teaching



Assisting raise invoices

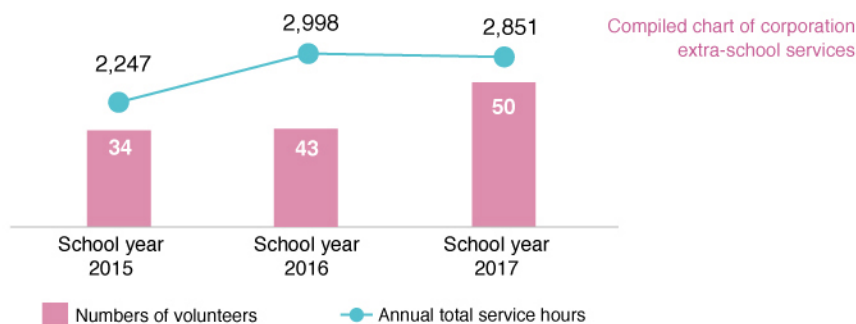
5.1.2 Construction of Caring System Through General Courses of Service Learning

Not only the compulsory common service-learning course (auxiliary executed by each section and student activity club) provided for all, but also our General Education Center additionally offered the elective service-learning course (led and executed by by teacher), to entitle students exposure to more comprehensive service-learning courses. There are 9 teachers offered, the general service-learning courses, with 53 sessions, from school from year 2013 to 2017, and 1,138 students registered with the courses. The concept of course design is to provide students with participatory learning and reinforce service implication, and to extend our students' service spin.

5.1.3 Community Voluntary Service and Comprehensive Development

The abundant ecology in our campus is also the public education resource to local community. To involve civil engagement into the Comprehensive integrated community development, the University of Kaohsiung started to establish campus butterfly trail in 2014 and recruit local community volunteers to formulate an ecology patrol team. Currently, there are 43 people in volunteer team, Ninety percent of volunteers are local residents, and with more than half are over fifty-five-year-old senior civil. The patrol volunteer team participates in habitat construction, plant protection and investigation, and study of the butterfly ecology. University and the community unite more tightly through cooperation in developing community environment.

Since 2010, the university actively entered into partnership of health promotion with the neighbor elementary and junior high schools, and worked together to promote health related issues. In May, 2015, the NUK has signed cooperated partnership memo of health promotion with 5 neighbor schools, including the CSHS (Kaohsiung Municipal Chungshan Senior High School), the KKSH (Guoguang Laboratory School, NSYSU, Guochang junior high school, Yuanjhong elementary school, and Zihguan elementary school, to construct community partnership in building healthy campus environment and promoting health-related activities. The Ministry of Education and accreditation committee members has given credits for what we have done so far. Until Dec 31, 2018, the partnership schools have held six events with an accumulated 2155 peoples participated.



Indonesia international volunteer group



Volunteer guards ecology overall building of environment



Set out for servicing of senior volunteer

5.1.4 Assisting Promotion of Diverse Course Taking for Compulsory Education and Local Connection

I

Continuously Cultivating in downward neighbor senior high schools, to develop a qualified regional compulsory education system. To establish the partnership of education with adjacent 15 senior high schools, based on the quality project of senior high schools and nature experimental class since 2014, offer related lectures and practical science course on Saturday mornings. Further, Our College of Science established the Center for Fundamental Scientific Education to promote outdoor practical education. Nine teachers from 4 departments composed a teaching group, holding 18 activities with 523 participants from junior and senior high schools so far. Establishing a new pattern of industry and Academy Cooperation among senior high school, university and industry by assisting senior high school and “Ren Da Industrial Park” in implementing the Ren Da petrochemical talent cultivation program to enhance local excellent education and local employment mechanism.

II

Student activity clubs manage holiday camp in winter & summer vacation by integrating our featured departments to construct practical capability of schoolchildren in elementary and junior high schools of remote townships. Our students not only utilize game-based learning method to inspire schoolchildren's creativity and enhance their learning interest, but also our students turn what they learn from the class into Practical experience of social education service. Nine featured camps were held in 2018. Besides, 205 students from our university involved in the program of digital buddies, and interacted with 90 students in remote schools. The AI center of our school has cooperated with Duona elementary school for many years by organizing the “e-Eureka information volunteer team, to widen the learning opportunity for rural students. Our university students interact with rural students by introducing the DIY course of robots to motivate schoolkids' vision and desire for learning.

III

Developing the feature camp of “Provincial Highway No. 17 Hometown of Milkfish”, training teachers to develop the school feature. Due to the Geopolitical relationship of our school, we cooperated with neighbor rural schools along the Provincial Highway No. 17, such as Mi tuo elementary school and Yong An elementary school, to induce their students' interest into science. We devoted to cultivating regional compulsory education by utilizing the local featured material, and assisting local teachers to develop their own creative teaching method. We never confine our university to an individual school entity, but an evolving innovative teaching incubation Center and the initiator of the regional compulsory education system.



National University of Kaohsiung information volunteer group servicing at the camp of Duo Na elementary school



Milkfish feature camp of National University of Kaohsiung

5.2 Enhance Public Interest of Higher Education

5.2.1 Expand Admission Scheme and Enhance Tutoring Service for Disadvantaged Students

I Prioritize expanding admission scheme for disadvantaged students

Establish special indigenous class, and secure the proportion of disadvantaged students' quota for individual application in 20.6 %.

School year 2017

Quota additional for indigenous	Priority admission quota for disadvantaged students	Indigenous program class on department of Civil & Environmental Engineering	Total amount	Provided quota by whole school	Protection ratio
52	35	--	87	423	20.6%

II Further coaching disadvantaged students in various learning, life, and employment for comprehensive caring.

(I) Consummate the academic learning coaching and incentive mechanism, grade-progress and on-balance ratio increased 14 % in 2017: Since 2017, change the "Incentive award system System" to "Happy Learning Program" and integrate with "Scholarship/Financial Aid" simultaneously We expand participation for more students to include diverse-ranking students to expand the guidance and enhance the learning effectiveness meanwhile.

	Numbers of people of participate guidance mechanism	Disadvantaged students at whole school	Ratio of participation	Progress in class rank and on-balance ratio
School year 2016	37	499	7.4%	49%
School year 2017	71	520	13.7%	63%

(II) Integrating the capability of student clubs, expand guidance of holding activities for disadvantaged students, to increase the opportunity of diverse development.

1. Continuous recruit disadvantaged students to do activity planning, and guide them how to plan, to enhance their capability of planning. We have increased the activity planning program from 3 to 7 annually, with an total number of participants increased from 276 to 547 people.
2. In 2017, organize the team of disadvantaged students to contribute to the sociality via activities, to enhance their service-learning, the activity has increased from once to 3 times annually.
3. Integrating the "Activity Incentive", to reduce the squeeze effect on the time cost and encourage the disadvantaged students to get involved. The incentive has increased the ratio of disadvantaged students to serve as the head in student clubs. The numbers of applications for incentive and the activities organized have both slightly grown.

School year 2017

Numbers of people acting as the chief of corporation	Numbers of corporation in school	Account for ratio of corporations in school	Account for ratio of disadvantaged students in school students
9	84	10.7%	9.4

(III) Establishing specific "Indigenous Students Resource Center", to consummate cultural support and coaching of campus life for students:

1. "Indigenous Students Resource Center" will assists in establishing "Indigenous Supportive Group" (including student clubs), and increase the opportunity of cultural exchange, enhance learning capability and campus supports for indigenous students.
2. The center held 24-times peer exchange activity in 2018 and organized traditional dancing performance in inter-college activities quite often, constructing cultural supportive mechanism.

(IV) Utilizing special financial aid to assist disadvantaged students in their career planning regarding internship and certificate. More and more disadvantaged students get involved and get better performance. Providing "Internship Grants", to lessen the economic pressure during unpaid internship period, so that we can encourage more disadvantaged students to join internship.

1. In 2017 to 2018, the number of summer vacation internship students has increased from 8 to 10. For the very first time, the Yunus Center has organized internship in Thailand for the disadvantaged students.
2. First establish the Incentives for professional certification. We allocate all school resources to encourage students in earning practical certification for future career competitiveness. The number of students to obtain certification increases from 6 to 16.

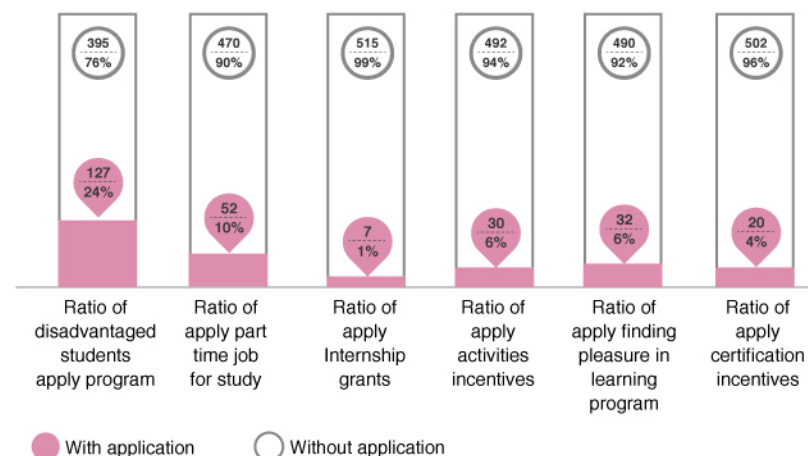
	Numbers of people on success to obtain certification	Account for ratio of disadvantaged students in school	Ratio of professional certification of departments and graduate	Ratio of interdisciplinary certification	Ratio of basic capability certification
School year 2017	6	1.2%	33.33%	0%	66.66%
School year 2018	16	3%	68.75%	12.5%	18.75%

III Provide sustainable assistance to promote special student loads for disadvantaged students and to improve the quality of fundraising

(I) Consummate financial aids for disadvantaged students, the ratio of the number of applications grew from 19% to 24%: we set up four schemes to guide special financial aids and integrate the internal related coaching resources, to provide the comfortable learning environment. In 2018, the number of all students tried to apply for either scheme account for 24% of total school's disadvantaged students, applications ratio in all scheme is 27% statistically. The "Incentives for professional certification" and "Incentives of Activity" are new schemes in 2018, both schemes account for 10 % of all application, and the rest schemes account for 17% in total., It is inferred that new schemes really advantage diverse students.

(II) Integrating with the influence of students' clubs, to develop the nature of leadership for disadvantaged students, to improve their self-affirmation and future competitiveness: The ratio of number of disadvantaged student leaders in student clubs reaches 17% in 2016. Therefore, the way how the extracurricular activity division organize and coach the disadvantaged students to plan for the grand events on campus, has proven helpfully developing students' leadership.

(III) Establish a school-wide system, to provide priority admitted quotas for disadvantaged students, and subside traveling expense to encourage school admission: provide the priority quotas of individual applications for disadvantaged students and integrate the additional quotas of indigenous students, to establish a special reserved admission system for disadvantaged students. Besides, we contact the admitted student personally by phone to inform the subsidy of the traveling expense of admission and to notify the students about available schemes for disadvantaged assistance mechanism in our school, not only to motivate students' admission but also to promote the social class mobility.



5.2.2 Associate Entrepreneur Alumni with Social Responsibility

I

Eight teams have been awarded the U-Start Program of Ministry of Education, and four teams among them won in the second stage. To reinforce the relationship between entrepreneur alumni and the university, both entrepreneur alumni and cooperated EMBA alumni all served as our lecturers of entrepreneurial courses in our school.



2015

Won first prize in cultural and creation industry section and second prize in manufacturing industry section (awards for 1 million and twenty-five hundred thousand New Taiwan Dollars and awards for nine hundred thousand New Taiwan Dollars).



2016

Won first prize in service industry section and second prize in cultural and creation industry section (awards for 1 million and twenty hundred thousand New Taiwan Dollars and awards for 1 million and twenty-five hundred thousand New Taiwan Dollars), the pure linen clothing by means of reducing environmental pollution, decreasing burden of body by "Howma", as well as "Che Che Information Marketing Company Limited" by means of long-term remote caring system for senior citizens which were won favor, awards for the total subsidy of twenty-five hundred thousand New Taiwan Dollars and 1 million and twenty hundred thousand New Taiwan Dollars respectively as the national champion.

Awarded in the second stage of U-Start program of the Ministry of Education

II

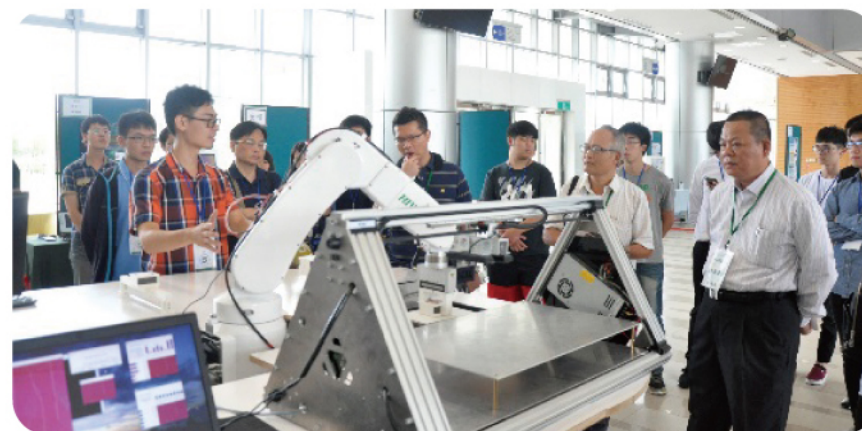
The Incubation Center organize a corporate visit for the waste water treatment team to the Cheng Tai Enterprise Company Limited. Further, we develop a new technology of recycling waste alkali technology and cooperated with the company to apply for the "Extrusion Aluminum Plant Regeneration of Waste Alkali Liquor Purification Equipment Development Program" subside by the conventional industry technology development project with 2.7 million. There is nine hundred thousand invested in the industry-academia collaboration with National University of Kaohsiung.

III

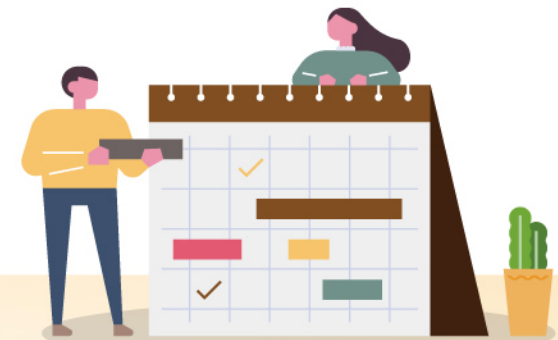
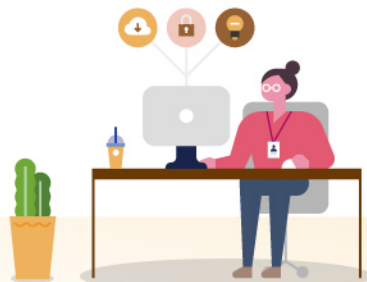
The "Painting after looking" team was composed of five of our students from electrical engineering department, to develop multi-axis mechanical Robot arm which integrate depth learning, image servo, image inspection functions etc., to replace traditional artificial cumbersome and complicate coating process. The team won the first prize and was awarded for one hundred thousand NT dollars in the "2018 AI and Robot Innovation Competition". That competition is part of a series of activities of "AIR Maker – collaborated by the NUK AI Center, the NUK innovative Incubation center, AI Robot Base of the Southern Taiwan Science Park Bureau. There are 62 teams from country-wide universities and colleges registered the competition, and only 20 teams enter the final.

IV

The "Energy-Craft" three-people team was composed of alumni and current student, intended to solve the problem of children's 3C addiction, energy crisis, and the future trend of learning programming language, coming up a design of the energy bricks. The team not only passed through the first stage of "U – start Innovation Entrepreneurial Program" by the Ministry of Education, and was awarded for the total subsidy of five hundred thousand NT dollars, but also get through to the final ten in the "2018 AI and Robot Innovation Competition" with more than two hundred participants.



Description of entry by the students of National University of Kaohsiung



GRI Check Statement

GRI CHECK INDEPENDENT OPINION STATEMENT

2018 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 corporate social responsibility (CSR), 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 2018 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 2018 National University of Kaohsiung Sustainability Report Review provides a fair view of the NUK CSR programmes and performances during 2018 year.

A team of CSR report assessors 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 at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with relevance to GRI Standards disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the NUK's social and 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 conducive in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for economic, social and environmental information 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 CSR 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



bsi.

Peter Pu
Managing Director BSI Taiwan
2019 07 24

Taiwan Headquarters: 5th Floor, No. 35, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.
BSI Taiwan is a subsidiary of British Standards Institution.

GRI Check Statement

獨立檢核意見聲明書

2018 國立高雄大學永續報告書

英國標準協會與國立高雄大學(簡稱高大學)為相互獨立的組織。英國標準協會除了針對 2018 國立高雄大學永續報告書進行檢核外，與高大學無任何財務、關係。

本獨立檢核意見聲明書的目的，僅作為對下列有關高大學 2018 年永續報告書所界定範圍內的相關事項進行檢核之結論，而不作為其他之用途。除對檢核項目提出獨立檢核意見聲明書外，對於其他目的之使用，或變換此獨立檢核意見聲明書的任何內容，英國標準協會並不負責或承擔任何法律或其他之責任。

本獨立檢核意見聲明書僅基於高大學提供予英國標準協會之相關資訊檢核所作成之結論。因此檢核範圍乃基於高大學在這些提供的資訊內容之內，英國標準協會認為這些資訊內容都是完整與。

對於這份獨立檢核意見聲明書所載內容與相關事項之任何錯誤，皆由高大學一併回覆。

檢核範圍

國立高雄大學與英國標準協會協商的檢核範圍，係依據 GRI 永續性報導準則檢核 2018 國立高雄大學永續報告書其內容應依 GRI 永續性報導準則核心原則的程度，對於報告書揭露的原始數據本屬於本次檢核範圍。

意見聲明

我們總結 2018 國立高雄大學永續報告書內容，對於高大學的相關運作與績效則提供了一個公平之觀點。

我們的工作是由一組具有 GRI 永續性報導準則檢核能力之團隊執行，以及策劃和執行這部分的工作，以獲得必要的訊息資料及說明。我們認為高大學所提供的足夠證據，表明其依循 GRI 永續性報導準則的報告方法和他們的自我聲明符合 GRI 永續性報導準則核心原則係屬公允的。

GRI 永續性報導準則

高大學提供關於 GRI 永續性報導準則的自我報告，與報告於「核心範圍」(每個涵蓋將可與 GRI 準則之重大主題，至少一個特定主題的相關項目依照其全部的報導要求)的相關資料。基於檢核結果，我們確認報告書中參照 GRI 永續性報導準則的社會責任與永續發展的相關揭露項目已獲報告，部分報告或省略。以我們的專業意見而言，此在我們所審查的高大學社會責任與永續發展之範圍內。

重大性

高大學公布永續經營相關資訊並受到利害關係人得以對組織的管理與績效進行判斷，以我們的專業意見而言，這份報告書適切地涵蓋了高大學的重大主題。

利害關係人包容性

本報告書與高大學以導引利害關係人的舉動，以改善及提高對社會永續發展責任之策略性的問題。並未阻止被發展以產生必要的資訊。報告書中已公正地報導與揭露經濟、社會和環境的資訊，足以支持適當的計畫與目標設定。以我們的專業意見而言，這份報告書涵蓋了高大學的包容性主題。

永續性

此份報告書已展現高大學永續性之廣大脈絡下的績效。

完整性

高大學報告書中涵蓋績效揭露項目與所定義之報告書範圍足以反映相關經濟、環境及社會衝擊，並受到相關利害關係人能審查組織於報告書期間的績效。這份報告書涵蓋了高大學的完整性。

責任

這份永續報告書所屬責任，為高大學負責人所有，我們的責任為基於所涵蓋的範圍，提供專業意見並提供利害關係人一個獨立的檢核意見聲明書。

能力與獨立性

英國標準協會於 1901 年成立，為全球標準與驗證之領導者。本檢核團隊由專業專家，且接受過如 AA1000AS、GRI Standards、ISO 14001、ISO 45001、ISO 14064 及 ISO 3001 之一系列永續性、環境及社會管理標準的訓練，具有主導經驗與資格之成員組成。本檢核團隊依據 BSI 公平交易準則執行。

For and on behalf of BSI:



Peter Pu
Managing Director BSI Taiwan
2018-07-24

bsi.












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GRI Standards 2016 Comparison Table

GRI Standard	Number	Disclosure Items	Correspondence Chapters	Page Number	Sustainable Development Goal of Union Nations
GRI 102 : General disclosure	Status of organization				
	102-1	Name of organization	1.1 History of the School	4	-
	102-2	Activity, brand, product and service	1.1 History of the School	4	-
	102-3	Location of headquarter	1.1 History of the School	4	-
	102-4	Location of operation	1.1 History of the School	4	-
	102-5	Ownership and legal form	1.2.1 School Organization	6	-
	102-6	Market of providing service	1.1 History of the School	4	-
	102-7	Scale of organization	1.2.2 Human Resources and Management	7	-
	102-8	Information of employee and other workers	1.2.2 Human Resources and Management	7	-
	102-9	Supply chain	2.5 Management of Business Interaction with Vendors	18	-
	102-10	Major change of organization and its supply chain	1.2.1 School Organization	6	-
	*102-11	Warning principle or policy	2.3 Risk analysis	16	-
	102-12	External advocacy	2.6.1 Communication with Stakeholders	19	-
	102-13	Qualification of membership in a public associations	2.6.1 Communication with Stakeholders	19	-
	Strategy				
	102-14	Declaration of decision maker	Words from the President	3	-
	Ethics and good faith				
	*102-16	Value, principle, standard and conduct norms	3.5 Academic Ethics and Integrity	31	-
	Governance				
	102-18	Structure of governance	1.2.1 School Organization	6	-
















*Indicate major subject

GRI Standard	Number	Disclosure Items	Correspondence Chapters	Page Number	Sustainable Development Goal of Union Nations
GRI 102 : General disclosure	Communication of stakeholder				
	102-40	Group of stakeholder	2.6.1 Communication with Stakeholders	19	-
	102-41	Agreement of group	無團體協約	-	-
	102-42	Discrimination and selection for stakeholder	2.6.1 Communication with Stakeholders	19	-
	102-43	Communication policy with stakeholder	2.6.3 Priority of Major Issues and Boundary Analysis	24	-
	102-44	Key subjects and concerning items of presence	2.6.3 Priority of Major Issues and Boundary Analysis	24	-
	Reporting practice				
	102-45	Consolidated the entity included in the financial statements	1.3.1 Financial Management	10	-
	102-46	Define the content of report and boundary subject	2.6.2 Identification of Major Issues	22	-
	102-47	Major subject listing	2.6.3 Priority of Major Issues and Boundary Analysis	24	-
	102-48	Information reparation "preparation"	This report is the first edition	-	-
	102-49	Reporting alteration	This report is the first edition	-	-
	102-50	Duration on report	About the Report	2	-
	102-51	Date on pervious report	About the Report	2	-
	102-52	Reporting cycle	About the Report	2	-
	102-53	Point of Contact who can response the report or content relevant questions	About the Report	2	-
	102-54	Declaration of following the reporting of GRI standards	About the Report	2	-
	102-55	GRI Content index	GRI Standards 2016 Comparison Table	70	-
	102-56	External warranty/ Assurance		68	-
GRI 103: Management policy	103-1	Explanation on major subject and its boundary	2.6.3 Priority of Major Issues and Boundary Analysis	24	-
	103-2	Management policy and its element	2.6.4 Development Strategies and Management Directions	25	-
	103-3	Assessment of management policy	2.6.4 Development Strategies and Management Directions	25	-
*GRI 201: Economic performance	201-4	Financial aid which get from government	1.3.1 Financial Management	10	-

GRI Standard	Number	Disclosure Items	Correspondence Chapters	Page Number	Sustainable Development Goal of Union Nations
*GRI 302: Energy	302-3	Energy intensity	4.4.1 Electricity Saving Measures	55	
*GRI 303: Water	303-1	Divide water withdrawal according to the source	4.3.2 Management of Water Resources	50	
	303-2	The water resources were significantly affected because of the water intaking	4.3.2 Management of Water Resources	50	
	303-3	Recycled and reused water	4.3.2 Management of Water Resources	50	
*GRI 305: Emission	305-2	Energy indirect (Scope Second) emission of greenhouse gas	4.4.4 Carbon Emission	56	
*GRI 306: Sewage and waste materials	306-1	The amount of water draining was divided by water quality and drain destination	4.3.2 Management of Water Resources	50	
	306-2	The waste materials divided by category	4.3.3 Management of Wastes	52	
	306-3	Severe leakage	There was no severe leakage events happened in school during 2018.	-	
	306-4	Transportation of waste materials	There was no import and export for waste materials in school during 2018.	-	
	306-5	The water body which was affected by releasing water and others(surface) runoff draining	4.3.2 Management of Water Resources	50	
GRI307: Environmental law compliance	307-1	Violation the environmental protection regulations	There was no event for violation the environmental protection regulations in school during 2018.	-	

GRI Standard	Number	Disclosure Items	Correspondence Chapters	Page Number	Sustainable Development Goal of Union Nations
*GRI 401: Employee-employer relationship	401-1	Junior employee and resigned employee	1.2.2 Human Resources and Management	7	-
	401-2	Benefits for full-time employee.	1.2.2 Human Resources and Management	7	
	401-3	Parental leave.	1.2.2 Human Resources and Management	7	
*GRI 403: Occupational safety health	403-1	Worker representative of the safety health committee is composed of the employees and employers.	4.3.4 Management of Laboratories	52	
	403-2	Ratio of injury category, injury, occupational disease, days of losing employees, absence rate, and the amount of the death due to the job events.	4.3.4 Management of Laboratories	52	 
	403-3	High incidence rate of occupational disease and workers which were in high occupation risk.	There was no high risking occupational disease in school.	-	 
*GRI 404: Training and education	404-1	Average training hours of each employee per year.	1.2.2 Human Resources and Management	7	
*GRI 405: The diversification of employees and equal opportunity	405-1	The diversification of the governance unit and employees.	1.2.2 Human Resources and Management	7	
	405-2	The raising ratio for females that give to males' basic salary.	1.2.2 Human Resources and Management	7	
GRI 406: No discriminatory	406-1	Discriminatory event and improvement actions taken by the organization.	No such incident occurred.	-	
GRI 411: Rights of Indigenous peoples	411-1	Events involving violations of the rights of indigenous peoples.	No such incident occurred.	-	
GRI 415: Public policy	415-1	Political donation	No political contributions.	-	-

Internal Customization Subjects

Customization items	Subjects	Correspondence Chapters	Page Number	Sustainable Development Goal of Union Nations
Effectiveness of Run a School	*Teaching quality	3.1 Teaching Quality	27	
	*Software facility of school	3.2 Software Facilities of the School	29	
	*Quality and quantity of academics'research	3.4 Quality and Quantity of Academic Research	30	
	*International exchange and international partner relationship	3.7 International Exchange and International Partnership	40	
	Operation of Continuation and Extension Education	3.8 Operations of Advanced Studies and Extension Education	42	 
NUK's SDG	*Sustainable Management of Campus	4.5 Management of Campus Sustainability	57	  
	Environmental Education	4.6 Environment Education	58	
	Course and Research of SDGs	4.1 SDGs Courses and Research	45	
Social Communion	Featured Teaching Integration with Activation Local Development of Corporation	5.1 Social responsibilities and sustainable social	60	 
	Enhancing Publicness of Higher Education	5.2 Enhancing publicness of higher education	64	 

*Indicate major subject

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