



Times Higher Education
**Sustainability
Impact Ratings**

SDG

2

Zero Hunger



SDG 2.2.1 Campus food waste tracking

1. NCUE has implemented stringent control over food waste generation from its two school cafeterias:
NCUE has measured and managed the daily food waste of all its two school cafeterias. The statistics show that the average daily food waste generated by the two school cafeterias in 2024 was approximately 0.020 tons, which is lower than the 0.021 tons in 2023. The Daily average food waste generation at NCUE is showed in Table 1.

Table 1. Daily Average Food Waste Generation at NCUE

Year	Daily Average Food Waste Generation	Reduction in Food Waste Compared to the Previous Year
2024	0.020 tons	0.001 tons
2023	0.021 tons	0.001 tons
2022	0.022 tons	0.003 tons
2021	0.025 tons	-

Note: The calculation formula is based on the year 2024. Daily Average Food Waste Generation = Annual Food Waste/Total Working Days in a Year (5 days a week × 52 weeks). 5.2 tons/260 days = 5,200 kilograms/260 days = 20 kilograms per day = 0.020 tons

2. NCUE has implemented a food waste reduction policy to prevent food waste:
 - (1) NCUE's food waste reduction policies:
 - (a) Promoting nutrition education and food appreciation, encouraging students to take only how much they can eat, not to be picky with food, and not to leave leftovers.
 - (b) Requesting vendors to assess the number of diners for food preparation.
 - (c) Monitoring food waste conditions and adjusting menus accordingly.
 - (d) Implementing time-limited promotional offers to reduce food leftovers. For details on the school cafeteria's promotional measures, please refer to Annex 2.2.1A.
 - (2) NCUE has implemented appropriate classification management for the daily food waste generated by the two school cafeterias, with food waste collection bins installed in both school cafeterias. Dedicated custodial staff conduct daily food waste collection, and appointed contractors regularly collect food waste for effective resource recovery and reuse. The approaches and strategies for reducing food waste are as follows:
 - (a) To efficiently utilize ingredients, NCUE has implemented a standardized meal preparation process and reduced the portion size of each meal. This ensures that teachers and students can finish their meals completely, avoiding food waste. (Figure 1)



Figure 1: Delicious and Healthy Small-portion Meals in the NCUE Cafeterias

- (b) NCUE has established rules for ingredient procurement and management, enabling standardized operating procedures for ingredient purchasing, processing, and inventory management to precisely control the inventory and freshness of all types of ingredients for effective utilization. For example, when there are near-expiry ingredients, NCUE promotes approaches such as light meal lunch boxes or budget-friendly lunch boxes to attract teachers and students. This not only ensures effective utilization of ingredients but also provides teachers and students with affordable and nutritious food, reducing their economic burden.

Annex: 2.2.1A: Relevant Results for School Cafeteria Discount Measures.

SDG 2.2.2 Campus food waste

Total food waste

1. The total food waste generated by the school cafeterias at both of NCUE's campuses in 2024 was 5.2 tons (5,200 kg), and the average daily food waste per faculty member and student was 2.46 grams. Compared to the 5.5 tons (5,500 kg) of food waste generated in 2023, which resulted in an average daily food waste per faculty member and student of 2.60 grams, this reduction of 0.14 grams indicated a notable improvement in our food waste reduction efforts. (Table 1.)

Table 1. Daily Average Food Waste per NCUE Faculty Member and Student

Year	Annual Food Waste Volume	Average Daily Food Waste per Faculty Member and Student	Average Daily Reduction in Food Waste per Faculty Member and Student Compared to the Previous Year
2024	5.2 tons	2.46 grams	0.14 grams
2023	5.5 tons	2.60 grams	0.15 grams
2022	5.72 tons	2.75 grams	0.41 grams
2021	6.5 tons	3.16 grams	-

Note: The calculation formula is based on the year 2024.

- (1) Daily average food waste generation = Annual food waste/Number of working days in a Year (5 working days per week * 52 weeks = 260 days): 5.2 tons/260 days = 0.020 tons (20,000 grams).
- (2) Average food waste per faculty member and student = Daily food waste/Total number of faculty members and students in the school (7,308 students + 805 faculty members = 8113 people): 20,000 grams/8,113 people = 2.46 grams.)
2. NCUE abides by the United Nations principle of cherishing food without waste, promoting and advocating the guideline of "take as much as you can eat, serve appropriate portions, avoid excess" to teachers and students. NCUE encourages school cafeterias to use ingredients produced by local small-scale farmers, which not only creates fresh and delicious meals but also reduces the carbon footprint from ingredient transportation, effectively minimizing food waste and kitchen waste (Figure 1).



Figure 1: Buffet Meals Made by NCUE Cafeterias Using Local Ingredients

Campus population

The campus population is 8,113, with 7,308 students in undergraduate program and 805 staff.

1. A total of 7,308 students: 5,079 in bachelor's programs; 1,767 in master's programs; 462 in doctoral programs. (Figure 2)

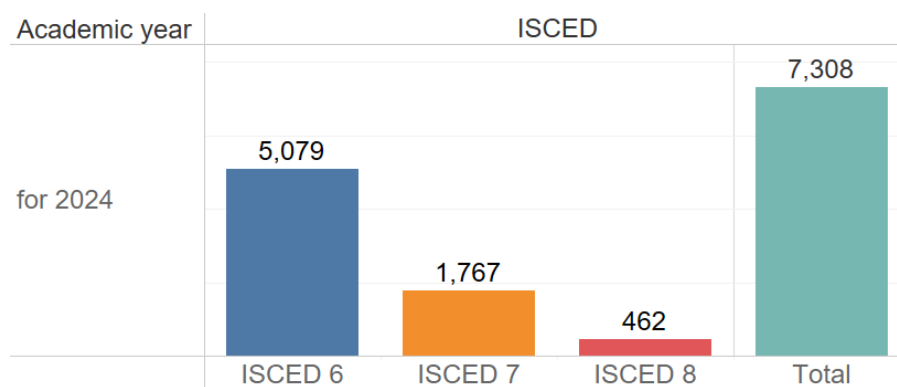


Figure 2: Campus Population

2. A total of 805 staff: 361 teachers, 84 staff, 5 technicians, 214 staff with endowment funds, and 141 project assistants in the programs. (Figure 3)

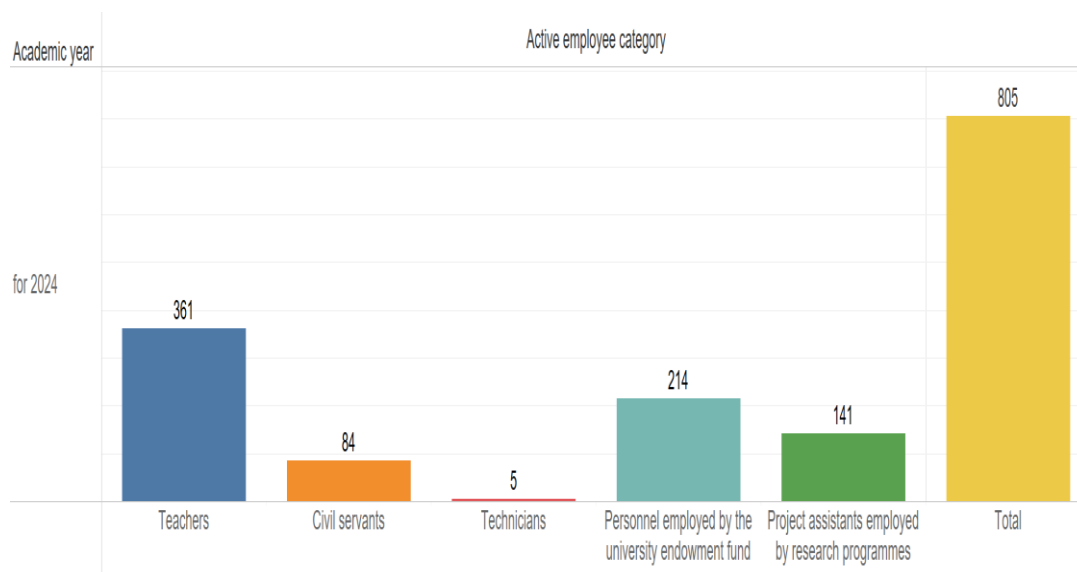


Figure 3: Faculty Numbers

SDG 2.3.1 Student food insecurity and hunger

Adhering to the three-tier management system for campus food safety and hygiene, NCUE cooperates with the Ministry of Education to conduct on-site guidance every academic year. NCUE has also set up a Meal Management Committee to coordinate work across units. Nurses appointed to serve as hygiene supervisors inspect the catering places every week, checking the campuses' food safety for teachers and students. NCUE places significant importance on campus food safety and strives to support students' well-being by reducing hunger-related concerns. This commitment is upheld by continuously improving food safety and risk management measures in its school cafeterias. NCUE has established a satisfaction survey system to promptly address any food-related inquiries from faculty members and students. NCUE has also maintained an outstanding food safety track record, with zero incident of food poisoning to date. (Table 1)

Table 1. Food Safety Record

Year	Numbers of Food Hygiene Supervision	Incidents of Food Poisoning
2020	32	0
2021	26	0
2022	34	0
2023	52	0
2024	68	0

1. Food safety management measures for school cafeterias (Annex 2.3.1A: NCUE School Cafeteria Meal Management Regulations):

- (1) NCUE has school cafeterias at both the Jinde and Baoshan campuses. The cafeterias' ingredients are all registered on the Ministry of Education's Campus Food Ingredient Registration Platform in accordance with the Ministry's regulations, and the cafeterias use local seasonal ingredients to provide teachers and students with safe, hygienic, delicious, and diverse dining options (Figure 1).



Figure 1: Diversity of Food Options Provided at School Cafeterias of NCUE

- (2) Zero Food Safety Incident: To ensure the safety of the food consumed by the teachers and students, NCUE has gradually implemented food safety education and management measures since 2014. The relevant measures are as follows:
- (a) Education and training for the catering staff: NCUE provides the latest health and safety regulations and food safety information, and requires thorough and reliable execution.
 - (b) Establishment of food safety SOP forms and various checklists to make all sanitation procedures controllable and manageable. When food safety issues happen, key problem points can be immediately identified for prompt review and resolution.
 - (c) Campus Food Ingredient Registration: NCUE controls food safety from the source of ingredients, inspects ingredients one by one, manages ingredient source control effectively, and uploads ingredient source data to the Ministry of Education's Campus Food Ingredient Registration Platform.
 - (d) Through internal and external third-party supervision units, NCUE receives assistance in supervising and enhancing the food safety and hygiene of school cafeterias.
 - i. Nurses visit the school cafeterias every week to conduct on-site hygiene inspections.
 - ii. The Changhua County Public Health Bureau assists in implementing food safety and hygiene inspections of school cafeterias every semester.
 - iii. NCUE accepts annual inspections conducted by the Ministry of Education in collaboration with agricultural and health authorities, who conduct random checks on the management and maintenance of school food safety and hygiene to safeguard school food safety and hygiene and enhance quality.

Annex 2.3.1A: The NCUE School Cafeteria Meal Management Measures.

2. NCUE has adopted the following specific measures to enhance safe and healthy eating for teachers and students:
- (1) Taking into consideration the health of teachers and students and Taiwan's dietary cultural context, NCUE's cafeterias menu incorporate healthy plant-based and vegetarian options into meal choices, and feature vegetable and fruit bar stations that provide diverse dietary content to promote balanced nutrition for teachers and students.
 - (2) To promote safe and healthy eating among teachers and students, NCUE integrates healthy diet knowledge into the dining environment: suggestions for healthy dietary combinations are posted on the pick-up counters; nutrition and health information is conveyed through posters and TV screens throughout the cafeterias; nutritionist-guided healthy eating activities are also organized, and fun activities such as "Vegetable and Fruits battles" at school fairs are held to convey various dietary health knowledge (Figure 2).



Figure 2: Suggestions for Healthy Dietary Combinations are posted on the pick-up counters to enhance teachers' and students' knowledge regarding healthy eating.

SDG 2.3.2 Students hunger interventions

1. NCUE provides **free** meal coupons to students facing financial difficulties to address student hunger issues:

To assist students at NCUE who encounter financial hardships due to family circumstances or unexpected incidents, ensuring they are not affected by hunger caused by economic difficulties during their learning process, NCUE has established the "Mr. Jin-pyng Wang Emergency Aid and Campus Meal Coupons for Economically Disadvantaged Students Application Guidelines." This program provides **free** university meal coupons to these financially struggling students, enabling them to focus on their academic studies and pursue their education with peace of mind.

The application forms for **free** meal coupons are publicly available on NCUE's website. After approval, students can use them at any counter in NCUE's school cafeterias, which provide a rich variety of nutritionally balanced foods for students to choose from. (Figure 1) These **free** meal coupons have been established since 2009, and in recent years, hundreds of students have applied for them. Taking 2024 as an example, NCUE provided 152 students with **free** campus meal coupons at a total expenditure of 634,550 NTD. (Annex 2.3.2B)



Figure 1: NCUE's **Free** Meal Coupon

Annexes:

Annex 2.3.2A: Key Points for Campus Meal Coupon Application Guidelines

Annex 2.3.2B: Summary Table of Campus Meal Coupon Users

Annex 2.3.2C: Photos of Student Food Safety Strategies

Meal Coupon Application Announcement Website: <https://stuaffweb.ncue.edu.tw/p/412-1039-1344.php>

2. NCUE provides diverse, extended-hour food services to meet the dietary needs of students, faculty and staff:
 - (1) NCUE has established a **free** campus meal coupon distribution program that provides **free** campus meal coupons to economically disadvantaged students. After receiving the coupons, students can use them at any counter in the school cafeterias, which offer rich and nutritionally balanced food options, allowing students to focus more on their academic studies.
 - (2) The school cafeterias operate from 6:30 AM to 8:00 PM, providing breakfast, lunch, and dinner

services. With a daily meal service period of 14 hours, the school cafeterias can fully satisfy the dietary needs of faculty, staff and students.

- (3) NCUE has installed multi-function vending machines (offering instant noodles, bread, and beverages) (Figure 2) at various locations throughout the campus and dormitory areas to meet students' dietary needs during non-cafeteria service hours.



Figure 2: Student Dormitory Vending Machine

- (4) NCUE has added a convenience store at the Baoshan campus that sells sufficient food items to meet students' 24-hour dietary needs. Additionally, the Baoshan campus has added an on-campus café (Figure 3 and Figure 4) with creative design and a comfortable atmosphere, allowing faculty, staff and students to enjoy coffee and achieve physical and mental relaxation.

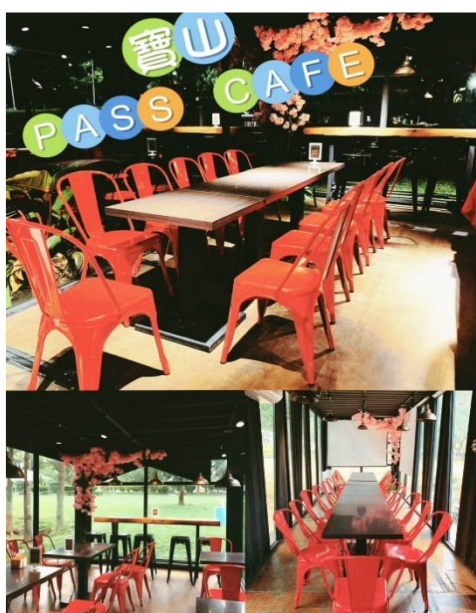


Figure 3: Creative Cafeteria on Baoshan Campus



Figure 4: Creative Cafeteria on Baoshan Campus

SDG 2.3.3 Sustainable food choices on campus

NCUE provides continuous and diverse dining options to meet the diverse food needs of teachers and students in recent years, and adheres to the purpose of maintaining health by planning various dining options.

1. Both NCUE campuses have cafeterias that provide teachers and students with comfortable and clean dining environments. The cafeterias operate as self-service restaurants, with vegetarian and non-vegetarian meals placed in separate zones to continuously serve teachers and students who follow non-vegetarian, semi-vegetarian, and ovo-lacto vegetarian diets, allowing each to select meals that suit their dietary preferences. In addition, healthy diet calorie labels are provided throughout the cafeterias to offer teachers and students economical, delicious meals.
2. NCUE's cafeterias adopt multilevel and multifaceted hygiene management, including self-management, ingredient registration, audits by external hygiene authorities, internal hygiene supervision, Food Management Committee oversight, and hygiene guidance for university and college cafeterias, to provide faculty, staff, and students with a comfortable, clean environment and nutritious, hygienic dining. The cafeterias provide diverse food court services for breakfast, lunch, and dinner, including Chinese buffets, light meals, Western-style waffles, fruit and ice bars, and local snacks (Figure 1 、 Figure 2). NCUE's diversified dining services website: <https://lib2.ncue.edu.tw/files/15-1035-22109,c3439-1.php>



Figure 1: Diverse Dining Services Offered by the NCUE's Cafeterias



Figure 2: Diverse Dining Services Offered by the NCUE's Cafeterias

3. NCUE's Food Management Committee holds at least two meetings every academic year and conducts weekly food hygiene and environmental inspections to supervise the cafeterias' food safety effectively.
4. Through counseling visits to school cafeterias by the Ministry of Education and corporate bodies, NCUE can provide healthier catering services to all teachers and students.

Annex:

Annex 2.3.3A: Diversified Catering Services and Supervision of School Cafeterias.

SDG 2.3.4 Healthy and affordable food choices

NCUE places great emphasis on food safety, health, and affordability in its meal offerings, allowing teachers and students to enjoy diverse and abundant cuisine from the cafeterias at reasonable prices, which represents one of the main advantages of NCUE's dining facilities. NCUE's cafeteria management guidelines are strictly supervised in accordance with the "School Cafeteria Venue Rental Contract" and the "Cafeteria Food Service Management Measures," ensuring not only healthy, safe, hygienic, and affordable meals, but also periodically providing discount information that is highly praised by teachers and students. The cafeteria supervision measures are described as follows:

1. NCUE cafeteria prices are set according to the "School Cafeteria Venue Rental Contract" and the "Cafeteria Food Management Measures":
 - (1) NCUE cafeterias must provide meals at affordable prices and clearly display unit prices for faculty and students' selection.
 - (2) When inspection results confirm that prices are indeed too high, vendors who refuse to cooperate after being notified of required improvements will have this recorded as a basis for vendor contract renewal evaluation.
 - (3) Vendors should regularly hold promotional activities to benefit teachers and students, which will be included as a basis for contract renewal rights evaluation.
 - (4) The pricing of various dishes is determined through joint discussions between the Food Management committee and management personnel.
 - (5) The prices of every dish should be made on acrylic plates and clearly marked with selling prices to facilitate calculation by teachers and students and avoid errors.
 - (6) Any adjustment of selling prices (including impacts from natural disasters and fluctuations in price indices) must be jointly discussed and agreed upon by management personnel and the Food Management Committee, and can only be adjusted after approval.

Annexes:

Annex 2.3.4A: NCUE School Cafeteria Venue Rental Contract.

Annex 2.3.4B: NCUE Cafeteria Food Service Management Measures.

Regulations Announcement Website: <https://healthweb.ncue.edu.tw/p/404-1041-24833.php>

Website for details on the occasional discounts at the school cafeterias:

https://apss.ncue.edu.tw/odedi/doc_page.php?id=63.6-20/4.4

https://apss.ncue.edu.tw/odedi/doc_page.php?id=63.0/5..2034

2. School Cafeteria satisfaction survey

To provide healthy and reasonably priced meals for everyone on campus, NCUE publicly invites faculty, staff, and students to participate in school cafeteria satisfaction surveys each semester. Through these satisfaction surveys, NCUE can continuously update and improve the cafeterias' menu offerings and hygiene environment, implementing relevant improvement measures. As a result, a convenience store was introduced to the Baoshan campus in 2021 (Figure 1), providing convenient food services for teachers and students. Furthermore, the school cafeteria at Dormitory No. 10 on

the Baoshan Campus officially opened in September 2023, enhancing the dining satisfaction of students at the Baoshan Campus.



Figure 1: Newly Established Convenience Store on Baoshan Campus

Annexes:

Annex 2.3.4C: NCUE School Cafeteria Satisfaction Survey. Website for more details on the school cafeteria satisfaction survey: https://apss.ncue.edu.tw/odedi/doc_page.php?id=.0-36-0./0.51.#

SDG 2.3.5 Staff hunger interventions

NCUE provides diverse, long-hour dining services to meet the dietary needs of staff:

1. The school cafeterias operate from 6:30 AM to 8:00 PM, providing breakfast, lunch, and dinner services. With meal service periods extending up to 14 hours daily, which can fully satisfy the dietary needs of campus staff. (Figure 1)



Figure 1: School Cafeteria on Baoshan Campus

2. Multi-functional vending machines offering instant noodles, bread, and beverages are installed at various locations across the campus (Figure 2) to meet the dietary needs of NCUE faculty and staff during times when the cafeterias are not in service.



Figure 2: Campus Vending Machines

3. NCUE's Baoshan campus has added a 24-hour convenience store selling adequate food items to meet the dietary needs of teachers and students around the clock. Additionally, the Baoshan campus has established an on-campus café (Figure 3) with creative design and a comfortable atmosphere, allowing faculty and staff to enjoy coffee and achieve physical and mental relaxation.

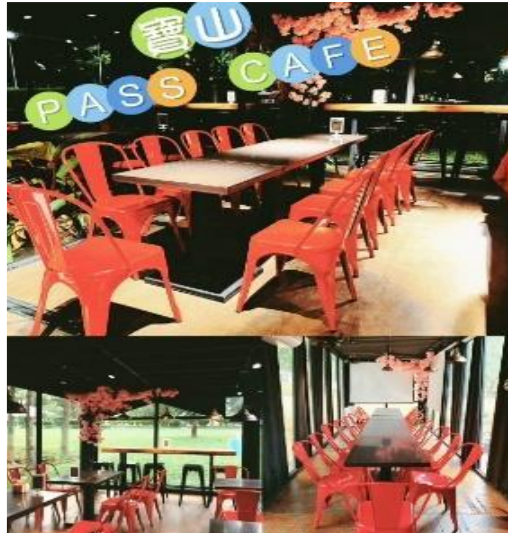


Figure 3: Creative Cafeteria on Baoshan Campus (Interior Dining Area)



Figure 4: Creative Cafeteria on Baoshan Campus (Exterior Landscape)

School Cafeteria Introduction Website: <https://lib2.ncue.edu.tw/files/15-1035-22109,c3439-1.php?Lang=zh-tw>

SDG 2.4.1 Proportion of graduates in agriculture and aquaculture including sustainability aspects

Number of graduates

The number of graduates was 2,139.

The number of students graduating from NCUE in 2023-2024: 1,156 in the bachelor's degree, 902 in the master's degree, 81 in the doctoral degree, and a total of 2,139. (Figure 1)

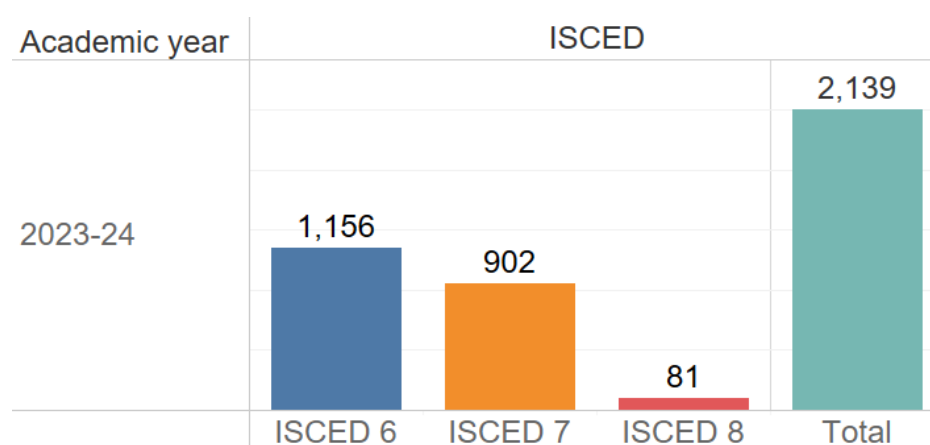


Figure 1: Numbers of Graduates

Number of graduates from agriculture and aquaculture courses including sustainability aspects

A total of 63 students graduated from agriculture and aquaculture programs in the Department of Biology, including 51 students with Bachelor of Department of Biology degrees and 12 students with Master of Department of Biology degrees. (Figure 2 and Table 1)

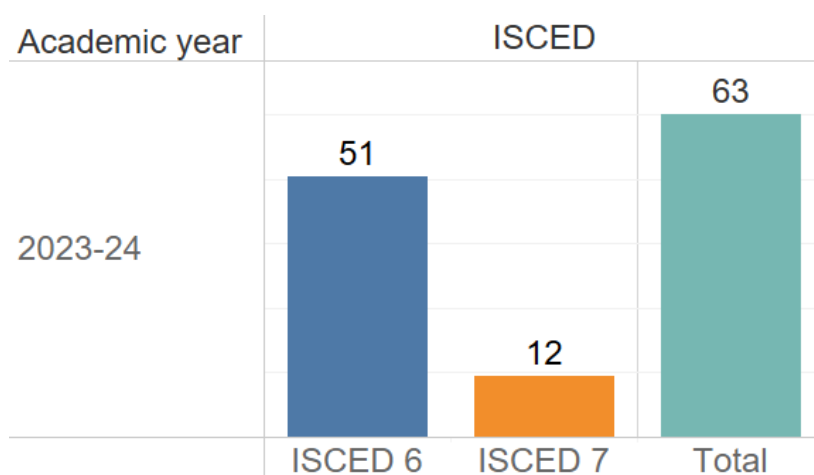


Figure 2: Numbers of Graduates from the Agriculture and Aquaculture Programs in the Department of Biology

Table 1: Numbers Graduates from the Agriculture and Aquaculture Programs in Various Degree Programs of the Department of Biology

ISCED	Number of graduates
1. The number of graduates according to the 6th edition (undergraduate level) of the International Standard Classification of Education (ISCED)	1,156 bachelor's degree graduates in 2023–2024
2. The number of graduates according to the 7th edition (graduate level) of the International Standard Classification of Education (ISCED)	902 master's degree graduates in 2023–2024
3. The number of graduates according to the 8th edition (doctoral level) of the International Standard Classification of Education (ISCED)	81 doctoral degree graduates in 2023–2024
4. The number of agricultural course (including sustainability) graduates	63 graduates: 51 Bachelor of Science in Biology graduates and 12 Master of Department of Biology graduates
5. The number of agricultural course (including sustainable development) graduates according to the 6th edition (undergraduate) of the International Standard Classification of Education (ISCED)	51 Bachelor of Department of Biology graduates
6. The number of agricultural course (including sustainability) graduates according to the 7th edition (including graduate level) of the International Standard Classification of Education (ISCED)	12 Master of Department of Biology graduates

NCUE graduates in agriculture and aquaculture programs (Department of Biology) account for 3% of total graduates.

(Agriculture and aquaculture program graduates (Department of Biology)/Total university graduates = 63/2,139)

SDG 2.5.1 Access to food security knowledge

Based on the Phase III University Social Responsibility (USR) Implementation, "Beautiful and Treasured Clams in Fangyuan and Dacheng", and the 2024 Industry-Academia Cooperation Project, "Marine Conservation Local Guardianship Project, the Survey and Conservation Education for Venus Clam Habitats along Changhua Coast," specifically focusing on "Venus Clam Habitat Survey" and "Survey Volunteer Training," NCUE integrates the expertise of the Department of Biology and the Environmental Education Center, aligning with the courses "Coastal Biological Resources" and "Sustainable Development and Practices of Coastal Biological Resources." NCUE continually delivers updated knowledge, skills, and technologies on food safety, sustainable agriculture, and aquaculture **free** of charge to local farmers, fishers, and food producers. Through water quality and sediment monitoring, eco-friendly aquaculture and disease detection techniques, sediment improvement trials, and fish-based diet education, NCUE empowers communities and industries to improve aquaculture quality, ensure food safety, and conserve ecosystems, fostering sustainable development of local industries and coastal environments.

1. Under the Phase III USR Project, "Beautiful and Treasured Clams in Fangyuan and Dacheng: Sustainable Industry and Environment Project of Changhua's Two Cities Amid Climate Change", NCUE's Department of Biology and Environmental Education Center extended collaborations with local fishing villages to promote aquaculture practices integrating environmental education and fish-based diet culture. Courses and activities included water quality monitoring, sediment monitoring and improvement, bivalve classification, and biodiversity surveys, equipping communities and students with the knowledge and skills for sustainable use of coastal resources and food safety.



Figure 1. Conducted water quality and sediment analysis training on March 11, 2024, equipping participants with the skills to operate water quality and sediment monitoring instruments, record and interpret data, and apply the results to venus clam habitat monitoring and conservation education promotion.

2. NCUE offered the courses "Coastal Biological Resources" and "Sustainable Development and Practices of Coastal Biological Resources", incorporating eco-friendly aquaculture techniques for coastal fish, shrimp, shellfish, and algae, aquatic food safety management, low-carbon aquaculture strategies, and fish-based diet culture education into the curriculum. Field trips were arranged to Xinbao Wetlands, Wanggong Fishing Port, and aquaculture farms for hands-on practice. Students engaged in learning and exchange with local fishers and schools, enhancing food safety awareness and industry skills.



Figure 2. On 2024/05/06, Teachers led students to the Fangyuan Wetlands Trail for field survey and observation on marine blue carbon. Activity website:
<https://www.facebook.com/share/p/19kgFU1e31/>

3. In cooperation with the 2024 Industry-Academia Collaboration Project "The Survey and Conservation Education for Venus Clam Habitats along Changhua Coast", NCUE organized the "Venus Clam Habitat Survey, " "Volunteer Training for Survey, " "Seed Teacher Training, " and "Venus Clam Detective Team programs. " Participants included community volunteers, primary and secondary school teachers and students, and citizen scientists, with over 300 cumulative participants throughout the year. These activities incorporated eco-friendly aquaculture and conservation into experiential learning, raising community awareness on sustainable fisheries and food safety.



Figure 3. On 2024/06/20, as part of "The Survey and Conservation Education for Venus Clam Habitats along Changhua Coast," NCUE conducted the "Seed Teacher Training" activity to teach participants how to lead visitors or students in marine citizen scientist activities.

SDG 2.5.2 Events for local farmers and food producers

NCUE holds courses and activities for local farmers and food producers to facilitate communication and knowledge transfer regarding agricultural products and food production. Additionally, NCUE periodically collaborates with relevant projects and campus celebration events to provide local farmers and food producers with **free** opportunities to promote local agricultural products through market activities. This enables teachers, students, and community residents to gain in-depth understanding of local agricultural specialty products and enhances interaction and knowledge exchange among teachers, students, local farmers and food producers. Figure 1 shows the food and agricultural education booths at the fairs.

Activity website: <https://www.facebook.com/share/p/175tySX7am/>



Figure 1: The photo of Changhua County Government Magistrate Hui-Mei Wang (on the left) with project partners and project staff - taken at the "Big Fun Youth Fair" (food and agriculture education booth) on April 27, 2024

1. From September 11 to 13, 2024, the Changhua Marine Food Research Base, Hamaguri farming enterprise Ha-Ha Fish Farm, and NCUE's 2024 project "Beautiful and Treasured Clams in Fangyuan and Dacheng: Sustainable Industry and Environment Project of Changhua's Two Cities Amid Climate Change " jointly represented the Changhua County Government at the "2024 Agriculture and Fisheries Taiwan" (Taipei Nangang Exhibition Center, Hall 1). The exhibition featured the promotion of eco-friendly aquaculture techniques jointly developed with Ha-Ha Fish Farm, applying water quality analysis and environmental monitoring to ensure the health and safety of both the aquaculture environment and seafood products. It also promoted proper fish-based diet education, encouraging local consumption, food safety and hygiene awareness, and aiming to reduce carbon footprints, thereby fostering the sustainable development of both industry and the environment. (Figure 2)



Figure 2: 2024/09/11–13, the Changhua Marine Food Research Base, Ha-Ha Fish Farm, and NCUE collaborated to represent the Changhua County Government at the Agriculture and Fisheries Taiwan, promoting locally produced, eco-friendly aquaculture products.

2. The student club "Bliss and Wisdom Youth Club" participated in the Happiness Boat & Campus Organic Holiday **Free** Vegetarian Food Exhibition, providing local small farmers' vegetarian food to promote understanding of the benefits of organic practices, encouraging everyone to care for the environment and protect the planet. This enhanced understanding of how carnism impacts global rainforests, ecological environments, and the Earth as a whole, thereby motivating faculty and students to care about life and take practical actions to create a sustainable environment for humanity. (Figure 3)



Figure 3: May 4, 2024, Event name: Happiness Boat & Campus Organic Holiday **Free** Vegetarian Exhibition.

3. The student club "Bliss and Wisdom Youth Club" organized a **free** seminar titled "Campus Vegetarian Promotion Event - Special Vegetable Mission": Sharing vegetarian culture by providing meals made by local vendors. (Figure 4)

Event website: https://www.facebook.com/photo?fbid=974971294648119&set=a.447049867440267&locale=zh_TW



Figure 4: November 21, 2024, Campus Vegetarian Promotion Event - Special Vegetable Mission

4. NCUE, through its required general education course, "Life Exploration, Development, and Practice," collaborated with the Food Bank to organize **free** volunteer activities. These activities included guided tours that helped students understand the importance of food and related knowledge. The volunteer work involved repackaging supplies, encouraging students to empathize with the feelings of children from disadvantaged families receiving gifts. This experience enhanced students' social awareness on global ecological development, also highlighting the importance of Environmental, social, and governance (ESG) for the future development of humanity as a whole. On March 18, 2024, the Department of Finance led a group of 35 teachers and students to participate in a volunteer activity at the Andrew Charity Association. (Figure 5)

Event Website:

<https://www.ncue.edu.tw/p/406-1000-25451,r93.php?Lang=zh-tw>

<https://www.facebook.com/share/p/1AKumgCXnR/>



Figure 5: General Education Course on March 18, 2024: Assisting with Food Distribution and Packaging, Understanding the Importance of Food.

SDG 2.5.3 University access to local farmers and food producers

NCUE has long shared its professional facilities, technology, and service with local farmers and food producers, assisting them with professional knowledge and technical support that improves their business model and sustainable development.

1. NCUE's Department of Biology offers access to well-planned research rooms and supporting projects.

The research projects includes areas such as the symbiosis between insects and microorganisms, algae resource engineering, social insects, animal ecology and evolutionary biology, yeast biodiversity and ecological evolution, bionics, molecular neuroendocrinology, molecular biology, plant genetic engineering, molecular health sciences, molecular medicine, free radical biology and biotechnology, bioinformatics, biology teacher training, environmental education, multimedia biology teaching and learning, and brain function and learning. The Department's teaching and research results have contributed enormously to agricultural improvements.

2. The Department of Geography at NCUE has promoted the planning and research of regional development. Through comprehensive regional development plans that advance overall regional development, environmental conservation and assessment, the living environment quality and productivity of farmers can be enhanced.
3. In 2024, NCUE's USR project collaborated with coastal aquaculture communities in Changhua, providing local aquaculture industry with **free** access to university laboratories and technical testing services. These included monthly water quality and sediment monitoring at intake and discharge points, inlet waterways, and coastal areas; assistance with identification of invasive bivalves in fish farms; and testing of marine *Vibrio* density in water and aquatic products. Through these facilities, technologies, and monitoring services, the project supported aquaculture industry in monitoring and improving farming environments, enhancing aquatic product quality and sustainable aquaculture management capabilities, while promoting eco-friendly farming practices and local brand development (Figure 1).



Figure1: Under the USR project, the university conducts monthly water quality monitoring in fish

farms and at various water sampling points to assist aquaculture industry in monitoring and understanding farming water conditions.

Annexes:

- (1) Latest Research Conducted by NCUE's Department of Biology: <https://biology.ncue.edu.tw/front/Academic%20Achievements/journal.php?ID=bnN1ZV9iaW9sb2d5JkFjYWRLbWljIEFjaGlldmVtZW50cw==>
- (2) NCUE Department of Biology website: <https://biology.ncue.edu.tw/>
- (3) NCUE Department of Geography website: https://geo3w.ncue.edu.tw/intro_021.php
- (4) Ministry of Education's project: "Beautiful and Treasured Clams in Fangyuan and Dacheng: Sustainable Industry and Environment Project of Changhua's Two Cities Amid Climate Change" website: <https://www.facebook.com/NCUEUSR/>

SDG 2.5.4 Sustainable food purchases

NCUE has always given priority to purchasing products from local, sustainable sources. For example, NCUE's cafeterias preferentially purchase seasonal and local ingredients to reduce food miles and carbon emissions generated during transportation. This approach also promotes local consumption while ensuring comprehensive ingredient control, allowing teachers and students across the campus to dine with confidence. The annual inspection results by the Ministry of Education are shown in Figure 1, and the relevant implementation strategies are detailed as follows:



Figure 1: Annual Ministry of Education On-Site Guidance on Catering and Hygiene

1. With the extreme climate crisis approaching, NCUE upholds two basic principles when purchasing ingredients:
 - (1) Giving priority to seasonal ingredients.
 - (2) Giving priority to local ingredients, which reduces carbon footprint, shortens food miles, and minimizes energy consumption on Earth.
2. Following the three-tier management system for campus food safety and hygiene, NCUE cooperates with the Ministry of Education to conduct on-site guidance every academic year. NCUE has established the Food Management Committee for cross-department coordination and assigned dedicated nurses to conduct weekly hygiene supervision of catering facilities.
3. In order to fully implement food ingredient control and encourage school cafeterias to:
 - (1) Give priority to labeled, traceable ingredients, such as TAP (Traceable Agricultural Products), CAS (Certified Agricultural Standards) products, and agricultural (livestock, aquatic) products with production traceability QR codes. (Figure 2)



Figure 2: Using local eggs as ingredients

- (2) Ensure the safety of consuming fresh fruits and vegetables, test the ingredients used in NCUE cafeterias, following the guidelines on the website for Pesticide Residue Monitoring in agricultural products published by the Food and Drug Administration, Ministry of Health and Welfare.
- (3) Supervise vendors to register daily on the Ministry of Education's Campus Food Ingredients Registration Platform online, fully disclosing ingredient information.

Annexes:

- (1) Food Management Committee meeting minutes in 2024: https://apss.ncue.edu.tw/odedi/doc_page.php?id=.0-4.1/5255-.-
- (2) Website for Pesticide Residue Monitoring in agricultural products: <https://www.fda.gov.tw/TC/site.aspx?sid=2428&r=1485767145>
- (3) Ministry of Education's Campus Food Ingredient Registration Platform: <https://fatraceschool.k12ea.gov.tw/frontend/>
- (4) 2.5.4A Attachment: Screenshots of the Ministry of Education's Campus Food Ingredient Registration Platform online registration process