

## SDG2.2.1

中文題目：校園食物垃圾追蹤

測量大學內提供的食物產生的食物垃圾量。

英文題目：**Campus food waste tracking**

Measure the amount of food waste generated from food served within the university.

### **1. NCUE tightly controls the food waste of its two school cafeterias.**

NCUE measures and manages the daily food waste of the two school cafeterias. Statistics showed that the average daily food waste generated by the two school cafeterias in 2021 was lower than 0.025 tonnes.

### **2. NCUE has implemented a food waste reduction policy.**

As part of NCUE's food waste reduction policy, the two school cafeterias classify the daily food waste generated with food waste bins placed in both school cafeterias. Specially appointed cleaners collect the food waste every day, and designated enterprises regularly collect the food waste for resource recycling. The methods and strategies for reducing food waste are as follows:

- 2.1 NCUE adopts a standardised production process when preparing meals that uses ingredients effectively and reduces the serving portions to ensure that the teachers and students can finish all their food, reducing waste.
- 2.2 NCUE regulates the selection, purchase, and management of ingredients to ensure that their procurement, processing, and inventory follow standard procedures. They closely monitor the inventory and freshness of all kinds of food to ensure safe and effective use. Food nearing its expiration date is made into 'light lunch boxes' or 'lunch boxes under 50 NTD' to promote sales, reduce waste, and ensuring food safety. The cafeterias' effective use of ingredients enables teachers and students to enjoy nutritious food at low prices to reduce their financial burden and food waste.



The small portions of delicious foods offered in the student cafeterias of NCUE.

#### **Annex:**

Please refer to [Annex 2.1.1](#) for details on School Cafeteria Discount Measures.

## SDG2.2.2

題目編號：2.2.2

中文題目：食物浪費總量

英文題目：Campus food waste

The second question (indicator 2.2.2: Campus food waste) calculates the food waste per person. These values will only be scored where universities have indicated that they are measuring food waste across the whole university..

### 1. Low average food waste

The measurement shows that the average daily food waste generated in 2021 by NCUE's two school cafeterias was less than 0.025 tonnes (25kg). The average amount of food waste produced by each teacher and student was less than 3.55 grams.

### 2. Discouraging food waste

NCUE abides by the United Nations' principle of avoiding food waste, asking teachers and students to "purchase food that you can finish but not more." NCUE encourages the cafeterias to purchase ingredients from local farmers. This allows them to make the freshest, most delicious meals while also reducing the carbon footprints associated with transporting the ingredients.



Buffet-style meals made by our school cafeteria with local ingredients

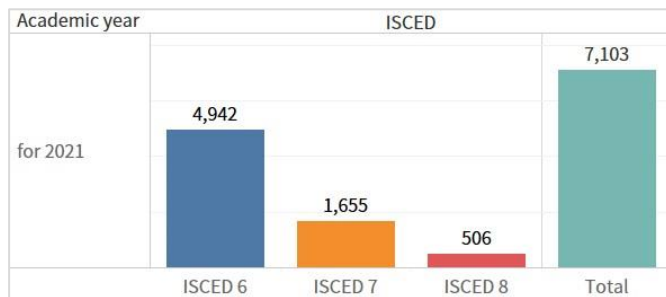
## 2.2.3

英文題目: Campus population

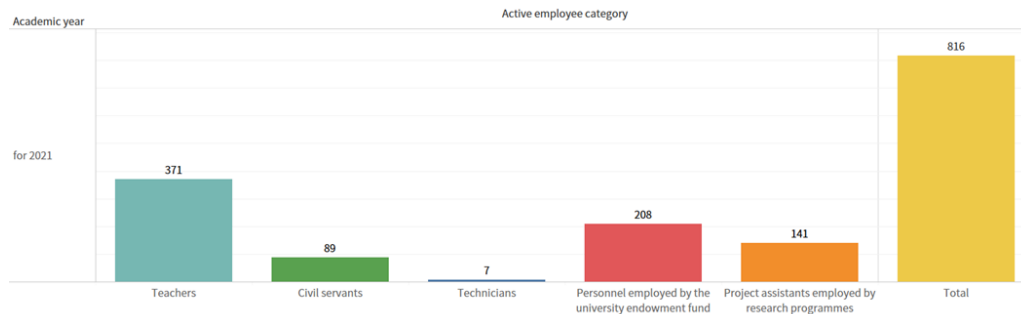
題目: Number of campus population 校園人口數。

The campus population is 7,919, with 7,103 students in day-time courses and 816 staff members.

1. 7,103 students. The number of NCUE students: 4,942 in bachelor's programs; 1,655 in master's programs; 506 in doctoral programs; 7,103 total.



A total of 2,816 staff members: 371 teachers, 89 staff members, 208 employees in the school fund, and 141 project assistants in the program.



## 2.3.1

中文題目：學生糧食不安全和飢餓

制定有關學生食品不安全的計劃。

英文題目：Student food insecurity and hunger

Have a programme in place on student food insecurity.

Following a three-level management mechanism 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 food 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. The school attaches great importance to food safety and helping students with hunger. The Food Safety Management Measures for School cafeterias ensure food safety for NCUE's teachers, students, and staff.

### 1. Food safety management measures for school cafeterias:

1.1 NCUE has school cafeterias at both the Jinde and Baoshan campuses. Both cafeterias use ingredients registered on the Ministry of Education's ingredient source database in accordance with the Ministry's regulations. They use local seasonal ingredients to provide the teachers and students with a variety of safe, healthy, and delicious meals.

1.2 To ensure the safety of the food consumed by the teachers and students, NCUE has implemented a Zero Food Safety Incident Policy and food safety education and management follows:

1.2.1. Education and training for the catering regulations and food safety information and

1.2.2. NCUE compiles standard operating controllable and manageable sanitation

personnel can immediately identify and review the key problems when food safety incidents happen and solve the problems quickly.



The cafeterias of NCUE offers a variety of meals.

**1.2.3.** Food ingredients registration: NCUE controls food safety by monitoring the source of all ingredients. The cafeterias properly manage and control the ingredients, checking them one by one against the information registered on the Ministry of Education's ingredient source database.

1.2.4. Internal and external third-party supervision teams assist NCUE in supervising and improving the safety and hygiene of school cafeterias.

**1.2.4.1.** Nurses visit the school cafeterias every week to check the hygiene.

**1.2.4.2.** The Changhua County Public Health Bureau helps implement annual food safety and hygiene inspections of NCUE's school cafeterias.

**1.2.4.3.** Together with the agricultural and health authorities, the Ministry of Education conducts random checks on the management and maintenance conditions of NCUE's food safety to maintain NCUE's food safety and health and improve the quality.

**Annex:**

Annex [2.3.1A](#) for the NCUE Management Measures for School cafeterias

**2. NCUE has adopted these specific measures to encourage teachers and students to maintain a safe and healthy diet :**

2.1 The menus of NCUE's cafeterias emphasise healthy eating, including vegetarian and vegan meal options, to protect the well-being of its teachers and students and respect Taiwan's eating habits. Diners can enjoy a variety of foods, including selections from the self-service fruit and vegetable bars, to achieve a healthy, enjoyable, and balanced diet.

2.2 The cafeterias post nutrition guides and knowledge about healthy diets to encourage teachers and students to eat safe, healthy foods: the dining tables show suggestions for mixing different food types; wall posters and TV screens offer nutrition information and health education guidelines; and nutritionists visit to share healthy diet tips. The cafeterias also hold fun activities such as garden parties with 'vegetable battles' to convey dietary health knowledge.



Suggestions on healthy diets are posted on the meal pick-up tables to enhance teachers' and students' knowledge regarding healthy dieting.

## 2.3.2

中文題目：學生和教職員工飢餓干預

提供干預措施以防止或減輕學生和教職員工的飢餓（例如，包括供應和進入食品銀行/食品儲藏室）。

英文題目：Students and staff hunger interventions Year: 2019 or 2020

Provide interventions to target hunger among students and staff (e.g. including supply and access to food banks/pantries).

### 1. NCUE gives free meal coupons to economically disadvantaged students to solve student hunger problems.

NCUE recognises that some students face difficulties in their lives (e.g. low income, family issues, emergencies) that can lead to them going hungry. NCUE encourages students to apply for the Jin-Pyng Wang Emergency Bursary and Meal Coupons for Students under Poverty Line. This program provides students in difficulty with free meal coupons so they can focus on their studies rather than worrying about how they will afford to eat.

The application forms for the free meal coupons are available on NCUE's website. Students can use the coupons at any counter in the student cafeterias to select from a variety of nutritionally balanced foods. In 2021, 164 students received free meal coupons at a cost to NCUE of only 745,839 NTD.

#### Annexes:

Annex [2.3.1B](#) Key Points for Applying Meal Coupons

Annex [2.3.1C](#) Summary Table of Meal Coupon Users

Annex [2.3.1D](#) Photos of student food safety strategies



NCUE's meal coupons

### 2. Diverse foods are available on campuses for long hours every day to meet the dietary needs of students and staff.

2.1 NCUE has a program that issues free campus meal vouchers to economically disadvantaged students. Students can use the coupons at any counter in the student cafeterias to select from a variety of nutritionally balanced foods so they can focus on their studies rather than worrying about how they will afford to eat.

- 2.2 Various locations around both campuses and all the student residence halls have vending machines selling instant noodles, beverages and coffee are available to meet the dietary needs of teachers and students when the cafeterias are closed.
- 2.3 The cafeterias in the campuses are open for 14 hours daily (06:30–20:30), offering breakfast, lunch, and dinner to meet the dietary needs of teachers and students.
- 2.4 The Baoshan campus has recently opened a 24-hour convenience store that provides food to meet the dietary needs of teachers and students. That campus also has a comfortable, creatively decorated cafe where teachers and students can coffee and relax.



Vending machines in a student residence hall.



The Creative Cafe on the Baoshan.

enjoy

Annex 2.3.2 Measures including the introduction of student cafeterias



### 2.3.3

中文題目：校園裡的永續食物選擇

為校園內所有人提供持續的食物選擇，包括素食和純素食物。

英文題目：Sustainable food choices on campus

Provide sustainable food choices for all on campus, including vegetarian and vegan food.

NCUE offers diverse dining options to meet the food needs of teachers and students and consider their nutritional needs and health.

**1. Both NCUE campuses have cafeterias that provide comfortable and clean dining areas for the teachers and students.**

All NCUE's cafeterias are self-service restaurants, with vegetables and meat-based meals placed in different zones for easy identification by non-vegans, semi-vegetarians, and ovo-lacto vegetarians. Various cafeteria locations show calorie labels to assist diners in achieving a healthy diet while enjoying affordable and delicious meals.

**2. NCUE's cafeterias follow multilevel and multifaceted management protocols to maintain optimum hygiene.**

NCUE's hygiene measures include self-management, ingredient registration, supervision by external hygiene authorities, supervision by internal hygiene teams, supervision by the food management committee, and hygiene consultations for universities and colleges to provide the faculty members and staff with a comfortable and clean dining environment and a nutritious and healthy diet. The cafeterias offer a variety of food-court services for breakfast, lunch and dinner. They also offer buffets of Chinese food and light meals; Western-style cakes, fruit, and ice bars; and local snacks.

**3. NCUE's food management committee holds at least two meetings every year and conducts weekly food hygiene and environmental inspections to supervise the cafeterias' food safety effectively.**

**4. Representatives from the Ministry of Education and various corporations visit the cafeterias to provide guidance on providing healthy food services to NCUE's teachers and students.**

**Annex:**

### Annex 2.3.3 Diversified Catering Services of Student Cafeterias and their Supervision



Various food zones in NCUE's cafeterias.

## 2.3.4

中文題目：健康和負擔得起的食物選擇

為校園內的所有人提供健康和負擔得起的食物選擇。

英文題目：**Healthy and affordable food choices**

Provide healthy and affordable food choices for all on campus.

NCUE is committed to providing safe, healthy, and affordable meals so its teachers and students can enjoy sufficient and diverse meals in the cafeterias at a low cost. The cafeterias regularly earn praise from NCUE's teachers and students. The school cafeteria management guidelines follow the Student Catering Venue Rental Contract and the Management Measures at Cafeterias requirements. In addition to ensuring nutritional, healthy, and safely handled foods in a hygienic environment, the cafeterias also hold promotional activities that are well received by teachers and students. The supervision measures for the cafeterias are as follows:

**1. Meal prices are set according to the Student Catering Venue Rental Contract and the Management Measures at Cafeterias:**

- 1.1 The cafeterias must provide meals at low prices. The unit price must be shown clearly for the teachers and students to read.
- 1.2 If the inspections reveal prices that are too high, the caterer will be notified. If there is no improvement, this problem will be considered when the contract is up for renewal.
- 1.3 The caterers should hold promotional activities for the teachers and students from time to time. This factor will be considered when the contract is up for renewal.
- 1.4 The prices of different dishes are determined by the food management committee and the management team after discussion.
- 1.5 The prices of every dish should be engraved on acrylic plates and shown clearly for calculation by students to prevent misunderstandings.
- 1.6 Any adjustment of the prices (including adjustments caused by natural disasters or fluctuations in the price index) must be discussed and approved by the management team and food management committee before implementation.

## Annexes:

Annex [2.3.4A](#) Student Catering Venue Rental Contract

Annex [2.3.4B](#) Management Measures at Student Cafeterias.

For details on the occasional discounts at the student cafeterias, please refer to this website:

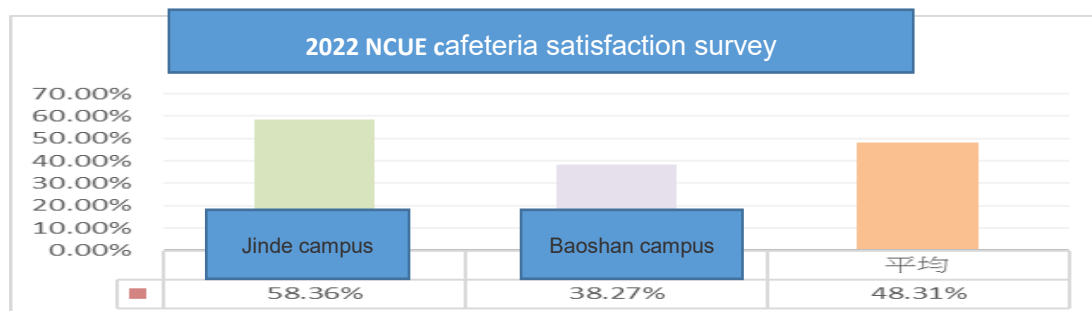
[https://apss.ncue.edu.tw/odedi/doc\\_page.php?id=/.3.5-551../11](https://apss.ncue.edu.tw/odedi/doc_page.php?id=/.3.5-551../11)

## 2. Cafeteria satisfaction survey

To ensure that NCUE's facilities offer healthy and reasonably priced meals for everyone on campus, NCUE invites faculty members, staff, and students to participate in a satisfaction survey on the cafeterias every academic year. For example, when asked about the Jinde campus cafeteria's service during the first semester of 2021, 60% of the teachers and students said the meals were reasonably priced. However, when asked about the Baoshan's cafeteria during the same period, only 40% of the teachers and students were satisfied. The satisfaction survey helps the cafeterias renew their menus, improve their meals, optimise the cafeteria's hygiene, and implement necessary improvements. The survey results led to NCUE opening a convenience store on the Baoshan campus in 2021, giving teachers and students easy access to food and basic needs. The tendering process for the catering service at the tenth student residence hall on the Baoshan campus is already complete. The new cafeteria should open officially by the second half of 2022, thus improving students satisfaction with their catering experiences on the Baoshan campus.



The newly opened convenience store on the Baoshan campus.



**Annexes:**

**Annex 2.3.4C** The Satisfaction Survey on NCUE Student Cafeterias. For more details, visit the following website:

[https://apss.ncue.edu.tw/odedi/doc\\_page.php?id=./4/3-450./.01](https://apss.ncue.edu.tw/odedi/doc_page.php?id=./4/3-450./.01)

<https://aps.ncue.edu.tw/odedi/attch/M30/11/1107280141.pdf>

**3. In response to the COVID-19 pandemic, NCUE formulated the following disease-prevention measures for the student cafeterias:**

- 3.1 NCUE formulated the Regulations for Self-management of Cafeteria Staff in response to the COVID-19 pandemic. Under these regulations, NCUE monitors catering staff members' travel and contact histories and the staff's daily health status. All staff members who have a fever or become ill must take time off and cannot return to work until they recover fully.
  - 3.2 Under the guidelines off the Meal Serving Measures and Regulations during the COVID-19 pandemic, NCUE set up thermographic cameras at all cafeteria entrances to monitor people's body temperature as they come in. The cafeterias have also implemented name registration and require everyone to wear masks.
  - (2) Implementing the "Measures and Regulations for Cafeteria Food Service": Wash your hands or disinfect them with 75% alcohol before entering the cafeteria; masks should not be removed for the whole duration while dining in the cafeteria, but only when eating or drinking.
  - 3.3 The guidelines require intensified education on the necessity of hand washing and disinfecting the hands with 75% alcohol.
  - 3.4 The cafeteria tables provide 75% alcohol disinfectant to diners at all times.
  - 3.5 NCUE placed partitions in the dining areas to minimise cross-infection risks.
4. The Ministry of Education (MOE) paid the "Annual Field Visit to Colleges and Universities and Student Dormitories for Pandemic Prevention and Preparation in the 110th Academic Year" to learn about the COVID-19 pandemic prevention measures and their implementations. In

response, our institution shall adopt the most conscientious attitude and stringent regulations to prevent the pandemic outbreak across the campus. In addition to the implementation of staff management measures, such as TOCC surveys, admissions, health surveillance, notification and tracking of suspected symptoms, and counseling on living with the pandemic, we shall strengthen the cleaning and disinfection of public spaces such as restrooms, elevators, classrooms, libraries, cafeterias, and student dormitories. The visiting committee members appreciated our institution's pandemic prevention measures and commended the innovative pandemic prevention measures we introduced in the cafeteria.

**Annex:**

**Annex 2.3.4D Disease-Prevention Results**



Pandemic prevention setup-1.  
The school cafeteria set up a booth partition in the vending area.



Pandemic prevention setup-2.  
The seating area is equipped with a dining partition



"Annual Field Visit to Colleges and Universities and Student Dormitories for Pandemic Prevention and Preparation in the 110th Academic Year"	Visiting members examining the innovative preventive measures introduced in our cafeteria	
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## 2.4.1

中文題目：畢業生人數

英文題目：Number of graduates

The number of students graduating from NCUE in 2020-2021: 1,158 in the bachelor's degree, 948 in the master's degree, 47 in the doctoral degree, and a total of 2,153.

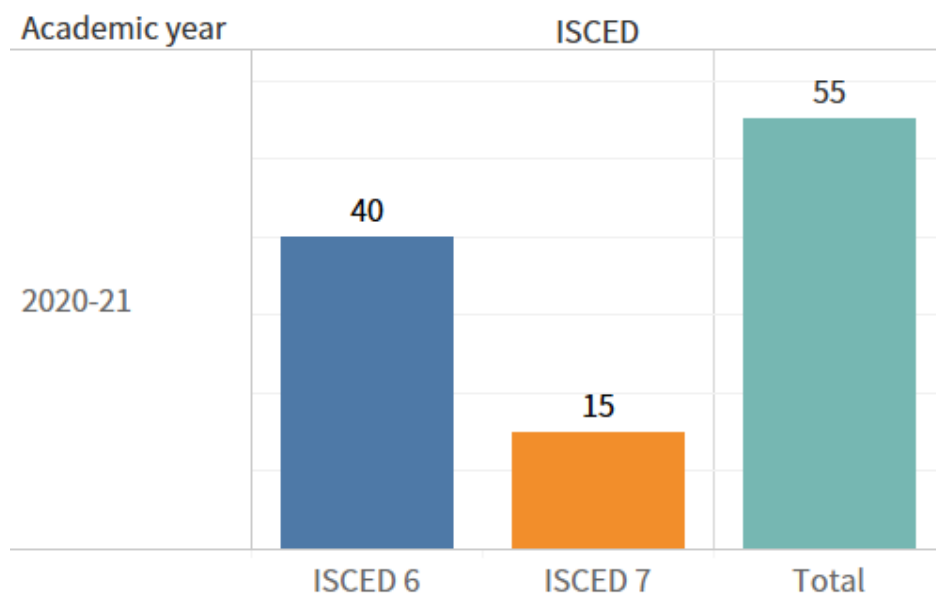
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## 2.4.2

中文題目：農業和水產養殖課程（包括可持續性方面）的畢業生人數

英文題目：Number of graduates from agriculture and aquaculture courses including sustainability aspects

There were 55 students working towards Bachelor of Science in Biology degrees (40) and Master of Science in Biology degrees (15) who graduated from the agriculture and aquaculture courses in the Department of Biology. The details follow:



1. The number of graduates according to the 6th edition (undergraduate level) of

1,158 bachelor's degree graduates in 2020–2021



the <i>International Standard Classification of Education (ISCED)</i>		
2. The number of graduates according to the 7th edition (graduate level) of the <i>International Standard Classification of Education (ISCED)</i>	948 master's degree graduates in 2020–2021	
3. The number of graduates according to the 8th edition (doctoral level) of the <i>International Standard Classification of Education (ISCED)</i>	47 doctoral degree graduates in 2020–2021	
4. The number of agricultural course (including sustainability) graduates according to the 6th edition (undergraduate level) of the <i>International Standard Classification of Education (ISCED)</i>	55 graduates: 40 Bachelor of Science in Biology graduates and 15 Master of Science in Biology graduates	
5. The number of agricultural course (including sustainable development) graduates according to the 6th edition (undergraduate) of the <i>International Standard Classification of Education (ISCED)</i>	40 Bachelor of Science in Biology graduates	
6. The number of agricultural course (including sustainability) graduates according to the 7th edition (including graduate level) of the <i>International Standard Classification of Education (ISCED)</i>	15 Master of Science in Biology graduates	

## 2.5.1

中文題目：獲取食品安全知識

為當地農民和食品生產商提供有關糧食安全和可持續農業和水產養殖知識、技能或技術的途徑。

英文題目：**Access to food security knowledge**

Provide access on food security and sustainable agriculture and aquaculture knowledge, skills or technology to local farmers and food producers.

NCUE's professional teams formed of experts in food security and sustainable agriculture, and aquaculture skills or technologies, along with the research team of the Department of Biology and the Environmental Education Centre, have spared no effort in providing local farmers and food producers with knowledge and skills relating to food security, sustainable agriculture, and aquaculture technologies, working together to develop a sustainable food industry and environment.

### 1. NCUE's research team from the Department of Biology helps the Ministry of the Interior promote and explain the wetlands grading system.

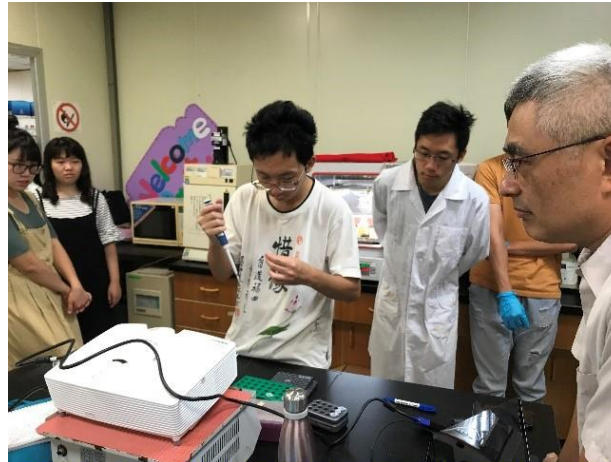
The team helped modify the system's application procedures. They also work to enhance product values in an environmentally friendly manner and contributed to helping Mr Ming-Liao Chen , a fisherman from Fangyuan Township, apply for the first wetlands grading certification for a coastal fish farm in Taiwan; received the certification on 26 July 2021.



Mr Ming-Liao Chen's wetlands grading certification, the for a coastal fish farm in Taiwan.

### 2. Deep Cultivation in Fangyuan and Joining Hands in Dacheng: Changhua Twin Cities' Industrial and Environmental Sustainability 2021.

2.1 This was a budding project that offered the Aquaculture Product Testing and Environmental Management course to nurture the technical talent needed by local industries. Course attendees, including members of the Changhua County Aquaculture and Fisheries Development Association, also learnt about and experienced high-end detection technologies such as aquaculture environmental inspection and management, care and inspection of aquaculture species, basic principles of aquatic processing and manufacturing technology, and aquatic product inspection technology.



30 October 2021: Professor Chuian-Fu Ken of the Department of Biology teaches students at the Free Radical Laboratory of NCUE's Graduate Institute of Biotechnology about quantitative detection techniques for fish bacterial infections.

2.2 NCUE's cross-disciplinary professional teachers and teachers of environmental education work together with scholars from other schools and local groups to promote the sustainable development of the industries and the environment in Changhua's twin cities, Fangyuan and Dacheng.

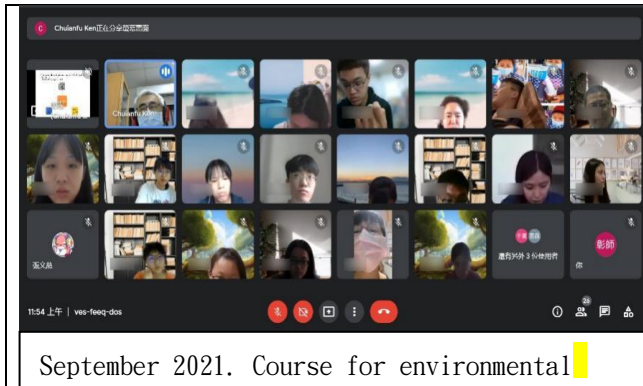
Environmental education gives local people have a clearer understanding and better awareness of the environment, motivating them to work with NCUE's Environmental Education Centre as it sets up environmental education certification courses and certification training classes, nurtures seeded teachers for local environmental education, addresses the local environmental issues, and strives for sustainable environmental development. The projects promoted in this project include research and practical experience in environmental education, an introduction to ecological and environmental protections, air pollution education, beach cleaning, wetlands conservation, energy saving, carbon reduction, green energy, and environmentally friendly product packaging and marketing. The projects focus on solving local environmental problems and developing the aquaculture industry.

NCUE's professional, cross-disciplinary teams work with the Fangyuan and Dacheng Townships to maintain the beauty of their coasts and the important wetlands ecology, protect the aquaculture production of Asian hard clams and other clams, and reduce environmental pollution and the damage it causes to the aquaculture industry.



May 25, 2022 Students and the industry discussing water quality testing values and their relationships with the environment, and discussing the measures to improve water quality.

**3.** NCUE hosts at least ten lectures, activities, or workshops every year to improve food and agriculture education; promote responsible fish consumption; improve the aquaculture environment and safety technologies of aquatic food; promote public health, environment, and food safety; control the quality of agriculture and fishery products; and enhance the ethical behaviour and the quality of environmental conservation within the industries.



**Annex:**

Annex 2.5.1 Achievements of the Ministry of Education and NCUE's Deep Cultivation in Fangyuan and Joining Hands in Dacheng: Changhua Twin Cities' Industrial and Environmental Sustainability Project. For more information, visit this website: <https://www.facebook.com/NCUEUSR/>

## 2.5.2

中文題目：為當地農民和食品生產商舉辦的活動  
為當地農民和食品生產商提供活動，以連接和傳播知識。

英文題目：**Events for local farmers and food producers**

Provide events for local farmers and food producers to connect and transfer knowledge.

NCUE organises courses and activities for local farmers and food producers to enhance communication and share knowledge about agricultural products and food production. NCUE also proposes projects and holds campus celebrations so local farmers and food producers can promote local agricultural products in bazaars. The events enable teachers, students, and residents to gain in-depth understanding of local agricultural products and interact professionally.



*May 21, 2022 Fish-eating education course, understand the relationship*

1. In the 50th anniversary year of the university in 2021, a "school bazaar" was organized, inviting local farmers to set up stalls and sell agricultural products such as coffee beans, rice, eggs, handmade vegetables, and creative potted plants.

Event website: [https://www.ncue.edu.tw/p/406-1000-6106\\_r93.php?Lang=zh-tw](https://www.ncue.edu.tw/p/406-1000-6106_r93.php?Lang=zh-tw)



"School Bazaar" organized for the 50th anniversary year of the University in 2021



2. At the invitation of Greenpeace, the World Meatless Day—School Vegan Food Truck event was held in 2021 to promote the concept of "replacing meat with vegetables" on campus; and to reduce carbon emissions by changing dietary habits to mitigate climate change. The goal of the event was reducing 2.4 kg of carbon emissions per person by participating in the activity of living one meat-free day. In total, 400 kg of carbon emissions were estimated to be reduced in two sessions.

Website of the event:

<https://www.facebook.com/photo/?fbid=4490150111072419&set=a.171162236304583>



World Meatless Day 2021—Campus Vegan Food Truck

Event

## 2.5.3

中文題目：大學接觸當地農民和食品生產商

為當地農民和食品生產商提供使用大學設施（例如實驗室、技術、植物庫存）的機會，以改善可持續農業實踐。

英文題目：University access to local farmers and food producers

Provide access to university facilities (e.g. labs, technology, plant stocks) to local farmers and food producers to improve sustainable farming practices

NCUE has long shared its professional facilities, technology, and service plans with local farmers and food producers, helping them with industrial upgrades and sustainable development by providing professional knowledge and technical support.

NCUE has long shared its professional facilities, technology, and service plans with local farmers and food producers, helping them with industrial upgrades and sustainable development by providing professional knowledge and technical support.



On March 16, 2022, a golden clam farmer brought the aquaculture pond's water and subsoil to the Department of Biology laboratory for testing

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

Local farmers and food producers hoping to improve their sustainable farming practices benefit from the NCUE Department of Biology's research projects in such areas as the symbiosis between insects and microorganisms, algae 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. NCUE's Department of Geography promotes planning and research on regional development.**

Proper regional planning promotes the region's overall development, environmental conservation, and environmental assessments and improves farmers' living environment and production.

## **3. NCUE implemented the project Deep Cultivation in Fangyuan and Joining Hands in Dacheng: Changhua Twin Cities' Industrial and Environmental Sustainability 2021.**

NCUE implemented the Ministry of Education's budding project Deep Cultivation in Fangyuan and Joining Hands in Dacheng: Changhua Twin Cities' Industrial and Environmental Sustainability 2021 by opening its water quality analysis laboratory, molecular health sciences laboratory, and molecular neuroendocrinology laboratory. This helped fish farmers in Changhua perform identification and quantitative detections on water quality, aquatic product safety and sanitation, white spot syndrome in shrimp, and fish diseases.

## **4. NCUE formed a water quality inspection and monitoring service team to implement a service plan.**

In 2020, 18 teachers and students from NCUE formed a water quality inspection and monitoring service team that cooperated with the Fisheries Research Institute and Hungkuang University to provide technical support to the Changhua County Aquaculture Association. The team monitored and inspected the county's 14 fish farms, four coastal inlets, and numerous groundwater wells twice monthly, providing real-time detection and monitoring analyses on water quality and bacteria levels to improve and enhance the quality and safety of coastal aquaculture and food systems with technical support.



2021.3.31 Aquaculture course

**Annexes:**

Visit this website for the latest research conducted by NCUE's Department of Biology:

<http://www.bio.ncue.edu.tw/writings/research.php>

Visit the NCUE Department of Biology website here:

<http://120.107.166.3/main.php>

Visit the NCUE Department of Geography website here:

[https://geo3w.ncue.edu.tw/intro\\_021.php](https://geo3w.ncue.edu.tw/intro_021.php)

For more about Ministry of Education's project Deep Cultivation in Fangyuan and Joining Hands in Dacheng: Changhua Twin Cities' Industrial and Environmental Sustainability Project, visit this website:

<https://www.facebook.com/NCUEUSR/>

## 2.5.4

中文題目：永續食品採購

優先從當地的永續來源購買產品。

英文題目：**Sustainable food purchases**

Prioritise purchase of products from local, sustainable sources.

NCUE has always given priority to purchasing products from local, sustainable sources. For example, the cafeterias preferentially purchase seasonal and local products to reduce long-distance transport's food miles and carbon emissions. Purchasing locally also stimulates local consumption and ensures ingredient control so cafeteria diners can feel at ease knowing that their food is fresh, safe, and healthy. The relevant implementation strategies are as follows:



The Ministry of Education Annual conducts on-site guidance on catering and hygiene.

### **1. NCUE upholds two basic principles when purchasing ingredients:**

- 1.1 Give priority to seasonal ingredients.
- 1.2 Give priority to local ingredients, which supports local produces and reduces the ingredients' carbon footprint by shortening the food miles to reduce energy consumption.

### **2. Following a three-level management mechanism for campus food safety and hygiene, NCUE cooperates with the Ministry of Education to conduct on-site guidance every academic year.**

NCUE's food management committee handles cross-department coordination with the Ministry of Education, appointing nurses to serve as hygiene supervisors who inspect the catering places weekly.

### **3. NCUE encourages the cafeterias maintain tight control over the ingredients through the following:**

- 3.1 Give priority to labelled, traceable ingredients, including traceable agricultural products (TAP) and agricultural products with Taiwan's Certified Agricultural Standards (CAS) labels or agricultural (livestock, aquatic) production traceability QR codes.
- 3.2 Test the ingredients used in the cafeterias, following the guidelines on the monitoring website for pesticide residues in agricultural products. The Food and Drug Administration, Ministry of Health and Welfare, offers this public website to help ensure the safety of fresh fruits and vegetables.
- 3.3 Under NCUE's supervision, disclose the ingredient information daily on the Ministry of Education's ingredient source database for campuses.



NCUE cafeterias use local eggs.

#### **Annexes:**

Annex 2.5.4 Sustainable Food Purchases; please refer to the Minutes of the Food Management Committee for semester one of the 2021 academic year:

[https://apss.ncue.edu.tw/odedi/doc\\_page.php?id=./4//3.1062-40](https://apss.ncue.edu.tw/odedi/doc_page.php?id=./4//3.1062-40)

For the monitoring website for pesticide residue in agricultural products, visit this website:

<https://www.fda.gov.tw/TC/site.aspx?sid=2428&r=1485767145>

For the Ministry of Education's ingredient source database for campuses, visit this website:

<https://fatraceschool.k12ea.gov.tw/frontend/>