



Times Higher Education
**Sustainability
Impact Ratings**

SDG

3

Good Health and
Well-being



2024 Sustainability Report



3.3 Student Counseling

Counseling and Psychological Test

Higher education is a crucial phase for teenagers before they enter society. Studying, peers, family, internships, and intimate relationships can present challenges to students both physically and mentally. The Student Counseling Division is the first line of defense established by MCUT to support students' physical and mental health on campus. The division offers individual counseling, growth groups, psychological assessments, and other relevant services to assist students in overcoming psychological difficulties. Individual counseling is not only available to those with problems or abnormalities; many students seeking self-awareness, solutions to challenges, and an enhanced quality of life can confront and address their issues with the support of counseling psychologists. Regarding growth groups, various activities have been planned, including sessions focused on self-exploration, emotional relationships, interpersonal skills, learning strategies, and career planning. Led by counseling psychologists, participants can share and support each other in better understanding and recognizing themselves while learning to interact more effectively. Additionally, psychological testing services are offered based on students' needs, such as an interpersonal behavior scale, career belief checklist, and career interest scale, which enhance students' self-awareness and understanding. Furthermore, new students needing a higher level of care can be identified through psychological assessments and subsequently receive counseling and follow-up support. We also strive to prevent campus depression and suicide while encouraging students to value and recognize their physical and mental well-being. Moreover, the test results will be shared with mentors and coaches for their reference, enabling them to provide care for these students in their daily lives and to build a supportive system. In the 2023 academic year, there were 235 students needing a high level of care, with 79 requiring level 3 cares. Psychologists from the Student Counseling Division provided counseling services, while 156 students needed level-2 care. Mentors or coaches offered life guidance and referred students to the psychologists from the Student Counseling Division according to their actual needs.

Records of counseling and psychological tests implemented in the past three academic years

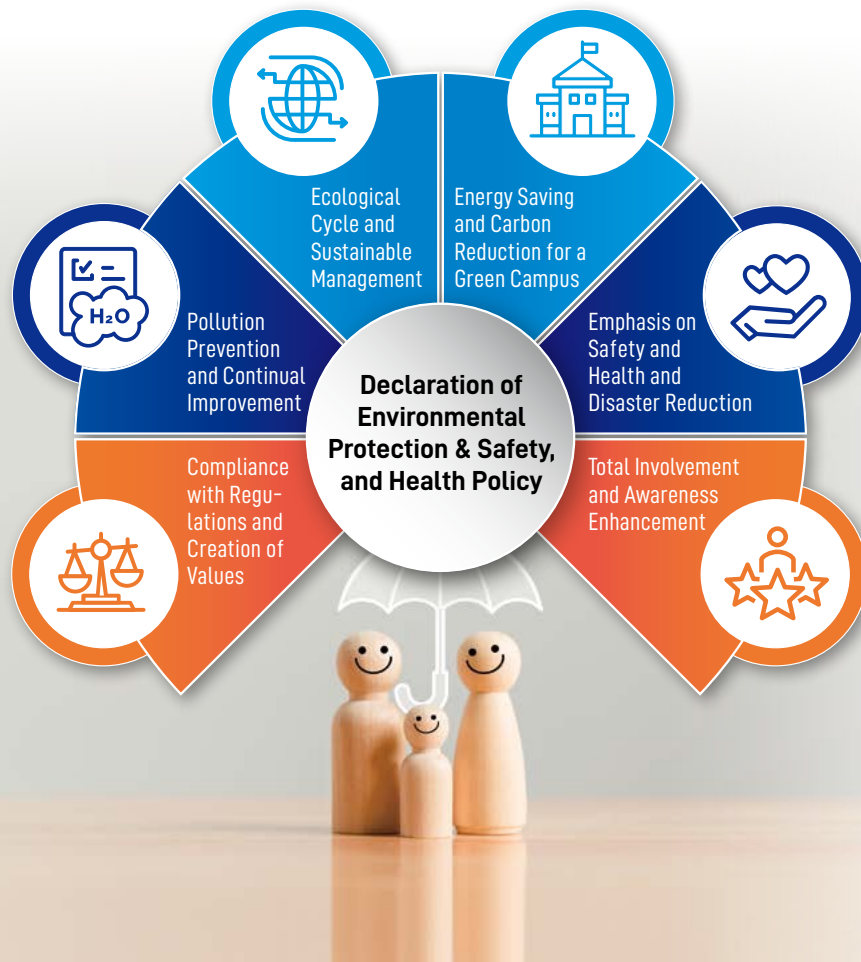
Unit: No. of students

Academic year	2021	2022	2023
Program			
Counseling	1,018	1,217	1,616
Growth group activities	306	271	297
Psychological tests	919	898	926



5.4 Campus Health & Safety

MCUT adheres to the spirit of "Diligence and simplicity," fulfills its responsibilities, and moves toward sustainable development. We aim to enhance the environmental quality of our campus, prioritize occupational health and safety (OSH) management, and follow the PDCA cycle to continuously improve our environmental health and safety (ESH) performance. Additionally, we integrate safety into students' daily campus life by addressing security incidents in real time and enhancing their safety awareness. We also focus on promoting a positive campus safety culture and creating an environment that ensures the safety of all faculty, staff, students, and stakeholders.



ESH Management

In line with the operational model specified in the Measures for Occupational Health and Safety Management, MCUT has established the "Office of Environmental Protection, Occupational Safety, and Hygiene." This office comprises the "Environmental Protection Team" and the "Safety and Hygiene Team." The Safety and Hygiene Team includes two dedicated OSH personnel and one vocational nurse, tasked with managing OSH, supervising and guiding fire safety, and ensuring radiation safety protection throughout the university. The Environmental Protection Team focuses on reducing and treating campus waste and sewage, managing the campus environment, providing education and training, and promoting projects related to environmental protection. Furthermore, the President heads the "Toxic and Concerned Chemical Substance Operation Committee," which consists of 49 members, 19 of whom are labor representatives (approximately 38.8%). This committee meets quarterly to discuss matters related to environmental safety and hygiene, as well as the management of toxic and hazardous chemical substances.



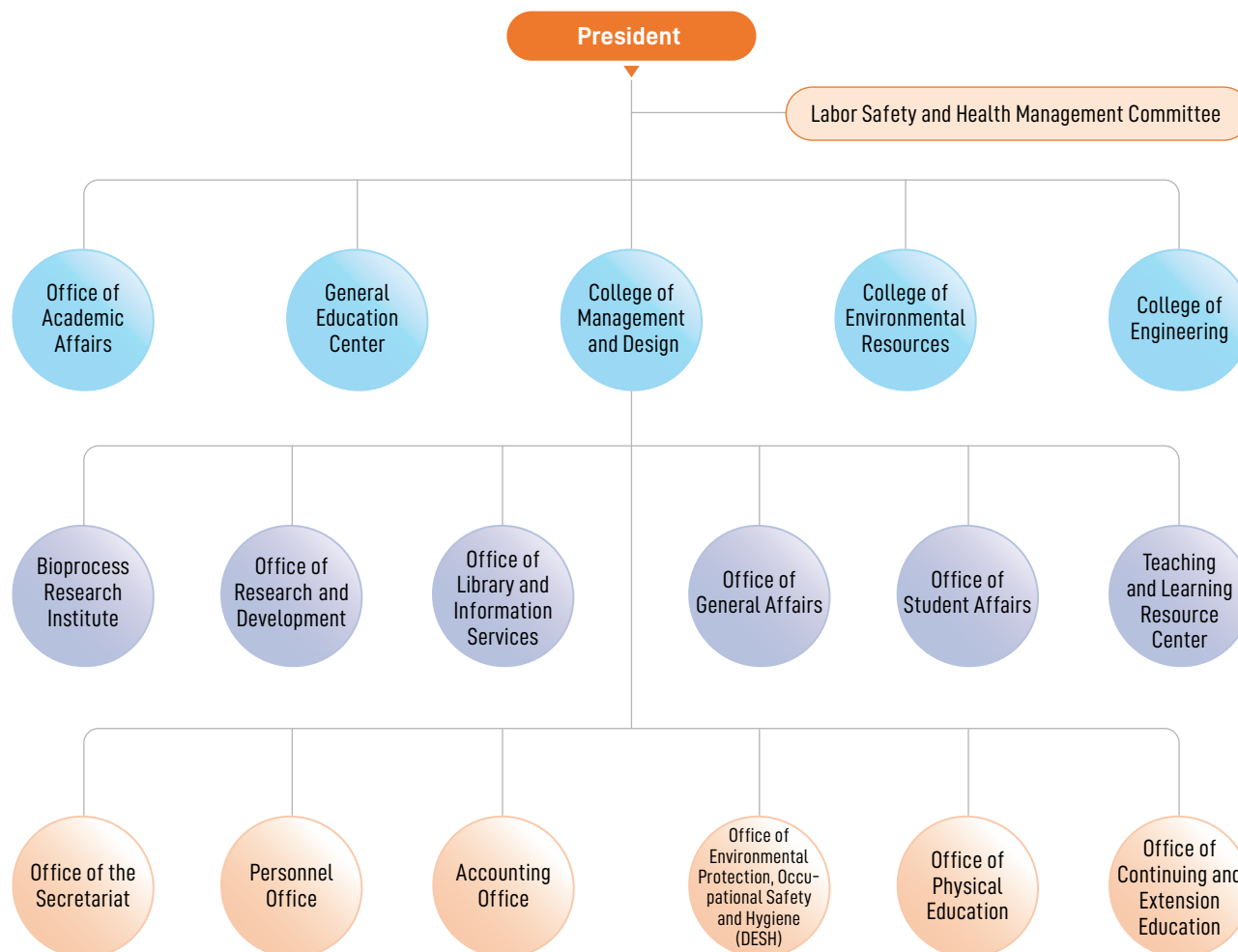
Occupational Safety Management System

MCUT introduced the campus safety and health management system certification from the Ministry of Education in 2011 and underwent three stages of counseling from Ministry of Education counselors in 2020. In 2021, the university passed the fourth-stage certification from the audit and verification team comprised of specialized talents and scholars invited by the Ministry of Education. Additionally, to align with the United Nations Sustainable Development Goals (SDGs), MCUT achieved ISO 45001 certification and received the relevant certificate in July 2022. The scope of this certificate encompasses the administrative offices and laboratories of each department. The applicable entities include the faculty and staff from each department of the university, as well as training students.



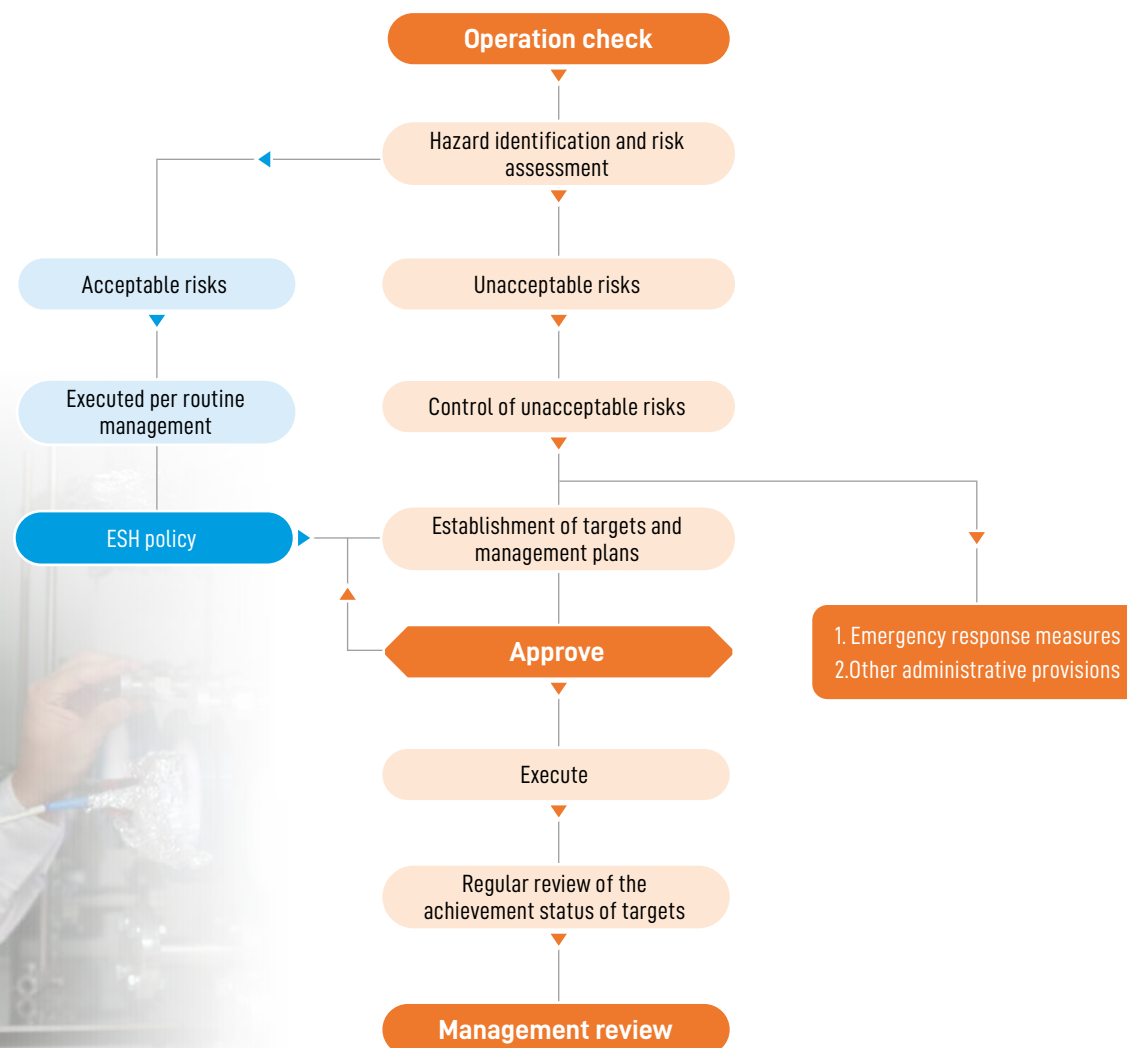
ISO 45001 Safety and Health
Management System Certificate

Health and Safety Promotion Organization



Through an operation mode focused on hazard identification and risk assessment, we conduct daily operation checks and risk level evaluations to prioritize the chemical safety and fire safety of laboratories. To this end, we have developed relevant measures or procedures such as "Toxic and Concerned Chemical Substance Operation Committee," "Regulations (Measures) on Health and Safety Management," "Measures for Laboratory Management," "Administrative Measures for Firefighting Equipment Safety," and "Administrative Measures for Accident Handling." Additionally, we have established a chemical management system platform to implement each evaluation and classified management task, effectively reducing the risks associated with laboratory operations.

○ Hazard Identification Flowchart



In the event of an accident or safety incident, an investigation team will be formed in accordance with the Administrative Measures for Accident Handling. The investigation will follow five steps: establishing a timeline, assigning tasks among team members, collecting relevant information, identifying the root cause, and providing recommendations for improvement. This process aims to reduce potential safety concerns on campus. In the academic year 2023, no major injuries occurred. The number of faculty, staff, and students experiencing certain injuries reached 826 person-times, and there were nine individuals in total affected by laboratory accident injuries (including laboratory students).

○ Hazard Notification Flowchart



○ Number of health and safety incidents taking place on campus in the past three years

Item \ Year	2022		2023		2024	
	Employed workers	Other workers who are not employed	Employed workers	Other workers who are not employed	Employed workers ⁵	Other workers who are not employed ⁶
Number of individuals	154	389	140	470	152	525
Total working hours (h) ¹	347,496	797,376	274,608	926,520	306,688	1,037,440
Number of major occupational health and safety incidents ²	0	0	0	0	0	0
Mortality ratio caused by major occupational health and safety incidents	0	0	0	0	0	0
Number of serious occupational health and safety incidents ³	0	0	0	0	0	0
Ratio of serious occupational health and safety incidents	0	0	0	0	0	0
Number of recordable occupational health and safety incidents ⁴	0	0	0	0	0	0
The ratio of recordable occupational health and safety incidents (FR)	0	0	0	0	0	0
Number of false alarms	0	0	0	0	0	0

Note 1: Total working hours and the number of people are based on the application data of "Contents and Statistical Table of Occupational Disasters." The number of individuals refers to the average number of individuals applied for in 12 months every year, while total working hours refer to the sum of the working hours applied for in 12 months every year.

Note 2: Major occupational health and safety incident: Refer to an occupational injury or occupational disease leading to death.

Note 3: Serious occupational health and safety incident: Refer to an occupational injury or occupational disease resulting in a recovery period above 6 months (not including death).

Note 4: Recordable occupational health and safety incident: Refer to an occupational injury or occupational disease (significant or serious) that causes workers to be unable to perform their original duties.

Note 5: Definition of employed workers in this form: Laboratory principal (faculty and staff).

Note 6: Definition of other workers who are not employed workers in this form: Number of faculty and staff, not including the laboratory principal.

Environmental Management System

MCUT introduced ISO 14001 Environmental Management Systems and obtained certification in 2012. We have established a "Campus Environmental Management Review Committee" to continually promote the environmental protection management policy and improvement mechanism according to the PDCA principle. In 2009, MCUT formed a Green University Promotion Committee responsible for tracking the performance of greening and energy resource indicators on campus annually, such as power and water consumption and environmental greening. Following the spirit of the "Declaration of Environmental Protection & Health and Safety Policy," we are continually striving towards the goal of becoming a sustainable university. To create a safe and environmentally friendly campus, MCUT has also developed relevant management systems for "Campus ESH Improvement," "Laboratory Waste Liquid Management," and "Toxic and Concerned Chemical Substances (Drugs)." Through information e-management, we can effectively address abnormalities in the campus environment, as well as health and safety issues, to reduce and mitigate risks.

[illegible][illegible][illegible]

- Management System for Toxic Chemical Substances (Drugs)

- Campus ESH Improvement System

- Campus Hazardous Industrial Waste Control System

OSH Education and Training

The Environmental Protection, Occupational Safety, and Hygiene department regularly organizes health and safety education and training sessions, each lasting at least 3 hours, for new faculty and staff, graduate students (including international students), and outsourced contractors. It also provides dedicated health and safety personnel with retraining courses of 3 hours every year. Additionally, fire brigades are invited to assist in conducting fire protection training for all new students along with fire protection and prevention training for faculty and staff. This initiative aims to enhance the ability of faculty, staff, and students to prevent disasters.

Operational safety is emphasized in off-campus internship fields. We require cooperative internship organizations to provide industrial safety education and training to ensure that students learn about the internship environment and relevant knowledge on industrial safety, thus avoiding industrial safety hazards. After the Contract Awarding Center awards contracts for appropriate projects to the contractors, a "Letter of Project Undertaking" and "Construction Operational Safety Notification" will be delivered to the relevant contractors and their construction personnel. Precautions for the workplace environment, reminders of potential hazards, and required health and safety measures are outlined in detail in the aforementioned documents. Contractors and their construction personnel are required to sign these documents after reviewing them.

Additionally, the university's Safety and Hygiene Team regularly organizes CPR and AED training, as well as first-aid training, for teachers and students each academic year. The purpose of these programs is to enhance the knowledge and skills of participants in administering accurate first aid in the event of an accident. This will help reduce injuries, improve campus safety, and enable effective self-rescue and rescue for others in daily life.

OSH education and training in the past three years

Item \ Year	2022		2023		2024	
	Person-times	Hours	Person-times	Hours	Person-times	Hours
Health and safety education and training - Dedicated personnel ¹	3	9	3	9	3	9
Health and safety education and training - General personnel	316	948	530	1,590	332	996
Fire safety education and training	176	704	220	880	288	1,152
CPR + AED training	66	264	68	272	74	296
First-aider education and training	50	800	49	784	33	528

Remark: Dedicated health and safety personnel include one health professional, one OSH administrator, and one vocational nurse.

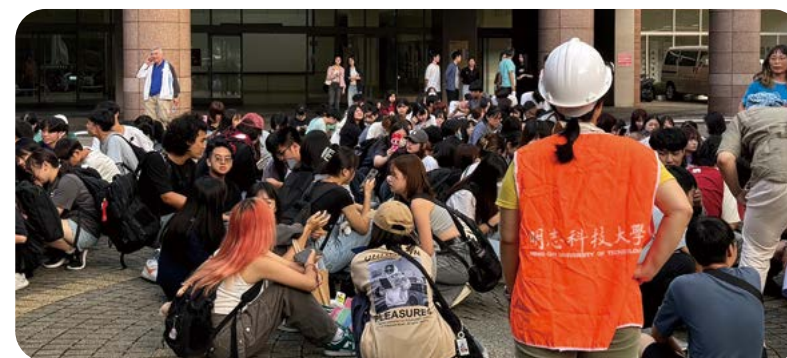
Emergency Response and Disaster Prevention

MCUT has implemented strong risk control measures for the "Chemical Laboratory" and "Machinery Internship Factory." Each laboratory is equipped with first aid kits, protective clothing, safety shoes, and emergency shower devices. Operational environments are regularly monitored each year to reduce hazard exposure. Monitoring items include acetone, ethanol, sodium hydroxide, acetonitrile, nitric acid, sulfuric acid, phosphoric acid, and others. Safety goggles and protective clothing are provided at the Machinery Internship Factory, and intern students are required to wear these items to enhance safety. The university's security center oversees disaster prevention efforts. A campus disaster prevention and rescue plan has been established, with dedicated personnel from Military Training Education implementing the plan, along with support from the Office of Environmental Protection, Occupational Safety and Hygiene, and the Office of General Affairs. Additionally, SMS and OA notification systems are in place for real-time notification, mobilization, and emergency response.



Drills and Evacuation

The university adheres to the guidelines set by the Ministry of Education regarding campus disaster prevention and emergency response. Various drills are conducted regularly in September to prepare for scenarios such as laboratory fires, rescuing the injured, and earthquake shelter protocols. These simulated exercises help reinforce our capabilities to prevent disasters, rescue individuals, and respond to emergencies. This fosters safety awareness among faculty, staff, and students, while also helping to reduce losses from disasters. We have engaged professional agencies to inspect firefighting equipment in accordance with the law. Furthermore, laboratories are mandated to perform independent inspections to ensure the availability of necessary emergency response and disaster relief facilities.



Employee and Student Health

To ensure the health and safety of faculty, staff, and students, we apply for the "Health Promotion Plan" from the Ministry of Education annually. We organize various activities such as "Healthy Positions," "Sex Education (Including AIDS Prevention and Treatment)," "Smoke Hazard Control (Including Smoke-free Campus)," "Healthy Diet," and "First Aid Training" to promote a healthy campus. Additionally, we conduct regular environmental monitoring and health checkups each year to assess personnel well-being and prevent occupational diseases. Currently, the extent of health checkups varies based on the different environments to which personnel are exposed. Furthermore, we conduct "Health Plan Care" activities, health education advocacy or lectures, and other relevant "Health Promotion Activities" to foster a reassuring workplace and emphasize the importance of campus health and safety to all faculty and staff members. In 2024, no occupational diseases determined by specialty physicians occurred at MCUT. The top five abnormal items in general health checkup results are: 1. Body mass index; 2. Total cholesterol; 3. Low-density lipoprotein; 4. Vision; 5. Fasting blood sugar. For abnormal items, a health checkup result briefing will be held. Individuals with moderate and severe abnormalities in the physical examination will be arranged for follow-up and home visit care services by the on-site physicians and nursing staff.

Person-times cared in MCUT's health plan in 2024

Name of plan	Person-times cared
Maternal Health Protection Plan	10
Ergonomic Hazard Prevention Plan	41
Abnormal Workload-Induced Disease Prevention Plan	124
Unlawful Infringement Prevention Plan for the Performance of Duties	18



Number of individuals receiving health checkups in the past three years

Item \ Year	2022	2023	2024
Number of individuals receiving general health checkups ¹	103	184	138
Number of individuals receiving special health checkups ²	Chromic acid: 3 Dimethylformamide: 2 Formaldehyde: 1 Cadmium compound: 2	Dimethylformamide: 4 Benzene: 1	Cadmium: 1 Dimethylformamide: 2
Number of students receiving health checkups ³	1,137	1,260	1,278

Note1: Number of individuals receiving general health checkups: The provisions of the MCUT regarding health checkups are superior to the regulations, and the following health checkup subsidies are provided by age: 1. For individuals aged 65 and above, one checkup is provided annually; 2. For individuals aged 45-65, one checkup is provided every two years; 3. For individuals aged 30-45, one checkup is provided every three years; 4. For individuals under 30, one checkup is provided every five years. Consequently, the requirements for health checkups vary by age each year. The number of full-time and part-time employees reached 762 this year, and the number of employees eligible for and participating in health checkups was 138.

Note2: For special health checkup items apply to the laboratory personnel exposed to special risks in this project. Therefore, special health checkup items are conducted in addition to general health checkups, including: 1. Pulmonary function; 2. Biochemical blood tests (serum alanine aminotransferase (ALT), gamma-glutamyl transferase (r-GT), chromium and cadmium); 3. Skin and mucous membranes. In 2024, a total of 3 personnel underwent this special checkup, and the results showed no abnormalities.

Note3: Number of students receiving health checkups: All freshmen admitted to MCUT received health checkups. The number of individuals receiving health checkups reached 1,278 this year.

Health Promotion Activities

In 2024, a health promotion plan was implemented featuring a 3-hour lecture on "Elderly Care" by Nutritionist Hsin-I Hsu. A total of 65 people attended the lecture, and 55 questionnaires were collected after the event. Of those surveyed, 51 participants (92.7%) reported being "Very satisfied" with the lecture, while 4 (7.3%) were "Satisfied." Feedback indicated that the contents of the lecture were helpful and well-received. Additionally, in 2024, a session explaining health checkup reports was conducted after the completion of health checkups for faculty and staff, with a total of 11 participants. Physician Chen, Chin-Ming, from Chang Gung Memorial Hospital in Linkou, explained the individual health checkup reports of faculty and staff and provided health suggestions.



Motorcycle Traffic Safety Advocacy Activities

MCUT regularly convenes the "Traffic Management Committee" each year to address concerns regarding the traffic safety issues facing faculty, staff, and students and report the advocacy results of traffic safety education, statistics gathering and analysis of annual car accidents, and other relevant issues.

MCUT has entrusted the Broken Angel Traffic Safety Promotion Company to promote the correct concept of safe motorcycle driving in order to reduce student traffic accidents. This initiative aims to prevent accidents caused by students riding motorcycles. It includes educational content such as statistical analysis of car accidents, understanding motorcycle speed, traffic violation penalties, accident prevention strategies, awareness of road hazards, right of way rules, and vehicle accident response. Additionally, engaging teaching methods and dynamic motorcycle demonstrations effectively captivate students. In 2024, a traffic safety explanation session highlighted the importance of safe and defensive driving practices when obtaining motorcycle licenses.



Statistics of motorcycle traffic safety advocacy activities in 2024

Explanation session of motorcycle license handling (sessions)	6
Student participation (person-times)	519
Static and dynamic lectures and Training on the safe driving of motorcycles	2
Participating person-times	305
Traffic safety propaganda team from New Taipei City	2
Participating person-times	174





明志科技大學

大學社會責任實踐計畫

113年度執行成果年報



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永續高齡友善校園運動環境

計畫主持人 | 陳建彰 體育室主任



一、問題意識與計畫目標

人口老化是全球共同的挑戰議題，依教育部體育署的人口定義，年滿65歲即被視為高齡者，根據臺灣國家發展委員會推估，臺灣的高齡人口，65至74歲的比率占60%，正式邁入聯合國定義的高齡化（aging）國家門檻，預估到2025年會升高20.7%，接近老年人口比達21%的超高齡（super-aged）國家，至2036年進入老年人口比達28%的極高齡（ultra-aged）國家行列。換言之，高齡人口橫跨的年齡區間相當大，其異質性更不能輕視，因臺灣當下正面臨高齡化老年人口時代，因此老化、老人問題勢必將成為全民關注的重要議題。體育室曾在112年度執行USR孵育性計畫「活躍老化-忘記年齡，樂齡健康在明志」獲得高齡者銀髮族學員好評，故113年度再度提出計畫申請，期盼持續透過對高齡者的關懷、社區服務以增強明志科大推動USR力道，承擔身為教育界一份子需肩負永續大學社會責任之義務。明志須將高齡者照顧視為全體師生與社區（會）應共同承擔的責任，而非高齡者及其家庭的個別議題，因緊密社區居民「是大家的事、逗陣一起來」的觀念，讓明志校園成為永續高齡者的友善運動環境。

二、計畫執行重點

招募來自泰山區、新莊區共40位高齡者，歷經4個多月共22次保健課程訓練例如：簡易節拍舞蹈訓練、基礎有氧舞蹈練習、柔軟度遊戲與瑜珈練習、利用重量訓練室與徒手訓練……等保健課程；以及辦理6次專家講座，運動與睡眠、筋膜放鬆、有氧樂多多、刮痧放鬆、生活不失衡、歡呼喝采CHEER，透過專家講座的學理傳達讓高齡者學員瞭解運動的重要性及急迫性。本計畫透過對新莊區、泰山區高齡者養生健康推廣及深化與地方社區之鏈結，包含高齡者健康講座課程規劃、志工學員培訓，並將高齡者健康促進概念導入校園、擴至社區，提供校園學生與社區民眾對於高齡者健康觀念與養生之道，協助翻轉高齡者的生活品質，朝活躍老化而努力。此外，參與本計畫學員皆需進行教育部體育署銀髮族體適能健身寶典的7項功能性體適能（椅子坐姿起立、肱二頭肌手臂屈舉、原地站立抬膝、椅子坐姿體前彎、開眼單足立、抓背測驗、椅子坐立繞物）前/後檢測，驗證本研究計畫之成效。



三、計畫成果亮點

40位高齡者平均年齡70歲、體重57.8公斤，採普測方式進行7項功能性體適能檢測，所得資料刪除不完整共14位，其餘有效資料26位。統計結果：高齡者學員7項功能性體適能(前/後)檢測成績排序，進步分數前四名分別為62.08、61.75、61.57、57.71，分數愈高代表身體機能改善效果愈好。尤其在「原地站立抬膝」主要在評估高齡者的心肺有氧耐力，以檢測2分鐘內完成的踏步次數，平均次數進步12.43次，為檢測成績進步最多的項目；其次依序「肱二頭肌手臂屈舉」評估上肢肌耐力，平均次數進步5.99次；「椅子坐姿起立」評估下肢肌耐力，平均成績進步4.8次；「椅子坐姿體前彎」評估柔軟度，平均成績進步1.28公分。說明本計畫課程規劃：有氧舞蹈、瑜珈伸展、彈力帶與彈力球、重量訓練與徒手訓練之課程發揮效益，能有效提升高齡者學員的基礎代謝率能力、增強身體的代謝功能，並藉由鍛鍊增加力量改善血液循環以提高活動能力，再者，下肢柔軟度亦得到改善消除肌肉、關節緊繃帶來的疲勞感，得於促進功能性體適能後測成績，優於前測成績。





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113年度執行成果年報



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跑動明志，永續新北

計畫主持人 | 賴怡廷 材料系 助理教授



一、問題意識與計畫目標

自新冠疫情爆發以來，全球受影響的民眾數量與日俱增。然而，在全球應對新冠疫情的過程中，環境污染問題卻更加惡化。隨著醫療廢棄物的增加、個人防護設備的使用，以及因封鎖導致的一次性塑料製品消耗量上升，環境正面臨巨大的壓力。2022年的最新研究指出，空氣污染與呼吸系統疾病之間存在密切關聯，長期暴露於污染環境中將顯著增加新冠病毒感染的嚴重程度及死亡風險。因此，如何鼓勵民眾減少環境污染的行為，並積極參與環保行動，成為當前的重要議題。計畫將結合社會責任，提升環境保護的意識，並藉助學術機構的專業知識，推動綠色生活方式。與此同時，透過相關的環保科學講座和社區教育活動，增進社區對環境問題的認知和參與，以共同推進SDG3「良好健康與福祉」及SDG13「氣候行動」的目標。

二、計畫執行重點

由於計畫主持人賴怡廷在跑步界上具有豐富的比賽經驗，多次代表政府出國參賽並進行體育交流，也擔任新北市馬拉松協會之監事職務，對於推動明志科大與在地運動結合具有其優勢，相關執行策略分為校內、校外以及跟友校合作，分別說明如下：

校內部分：

1. 開設校隊體育學分：和體育室與課程委員會討論，是否開設校隊體育學分，除了定期邀請體育系專業講師予以授課外，主要鼓勵有潛力學生修習，並提升學生參加全國大專院校運動會成績與名次，提升學校體育領域能見度。
2. 校園路跑與在地高中職扎根：邀請在地高中職之田徑隊選手參與本校之優良傳統校園路跑，除了讓高中職生了解明志校園外，也可藉由運動向高中職扎根，增加招生的可能管道。
3. 利用路跑/健行所回收得寶特瓶另外做實驗合成新材料並去除染料，並能愛護生活周遭的環境並二次保育生態。



肌力與肌肉的知識課程



明志科大田徑隊參與淡水河淨灘

校外部分：

1. 結合田徑隊與新北在地跑步社團建立訓練夥伴關係：由號召校內教職員以及學生參與在地跑步社團訓練活動，目前已有聯繫新北市馬拉松協會、新莊慢跑、愛跑者協會等社團進行相關討論。
2. 協助辦理新北市定期測5000公尺活動：由明志科大田徑隊學生以及有興趣教職員，協助辦理既有每月舉辦之新北市市民測5000公尺活動，由我們協助派出比賽配速選手，協助跑者達到理想的成績，並結合活動官方宣傳，開拓明志科大能見度。
3. 提升年長者運動意願之銀髮永續運動計畫：將結合每年於明志科大辦理之父親節路跑活動，除了提供場地和之原鄉關設備外，本計畫預計開辦路跑賽事訓練班，針對有報名此路跑賽之年滿50歲之跑者，針對比賽路線和距離設計5周的專業課程，除了增加年長者運動的意願外，也能協助跑者獲得更好的佳績，並增加明志科大能見度。
4. 參加「我愛淡水河」參與路跑並協助淨灘一系列活動，像是淨灘、路跑等等。呼籲大家關心河川保育、愛護文化古蹟，保有乾淨的腳踏車步道、寬休閒兼具的美麗河川。然而這次活動是結合路跑活動因此明志科技大學田徑隊的同學也一起跟上地方上的活動一起參與淨灘的活動，與參與民眾一起淨灘並分析水質檢測。再與活動志工一同分析採樣水質。



跑團訓練與伸展



本校校長參與定向越野活動

三、計畫成果亮點

1. 舉辦運動講座

為了增進社區居民對運動的了解，我們在計畫期間多次舉辦運動講座，特別邀請體育領域的專業講師授課。課程內容不僅限於理論講解，還結合實際操作，充分運用學校的健身房與操場等設施，讓參加者不僅學到運動知識，還能親身體驗學校可供使用的運動資源。

日期	課程名稱	講師
3/28	建立正確運動貼紮	張耘齊
10/22	從身體的筋膜結構看跑姿與恢復	江晏慶
10/24	利用核心訓練強化跑步訓練！	張耘齊&李冠閔

2. 週二、週四跑班成果

如下圖表一可見週二控制組在腓腸肌S硬度（左腳及右腳）的肌能有變好但踝關節效果叫不佳的原因為我們並沒有使用滾輪

▼ 表一、週二控制組

週二 控制組	腓腸肌 S 硬度 左	腓腸肌 S 硬度 右	踝關節 活動度 左	踝關節 活度度 右
前測	279.38	277.13	33.38	33.13
後測	295.38	296.75	30.31	28.94

如下圖表二可見週四滾筒組在腓腸肌S硬度（左腳及右腳）的肌能皆有變好，可瞭解到筒組有滾輪伸展對於踝關節的測驗結果更加有幫助

▼ 表二、週四滾筒組

週四 滾筒組	腓腸肌 S 硬度 左	腓腸肌 S 硬度 右	踝關節 活動度 左	踝關節 活度度 右
前測	325.76	322.82	33	32.47
後測	327.71	474.88	34.35	34.24



拉筋伸展檢測



檢測跑者的肌肉強壯程度