



Times Higher Education
**Sustainability
Impact Ratings**

SDG

9

Industry, Innovation
and Infrastructure



2024 Sustainability Report

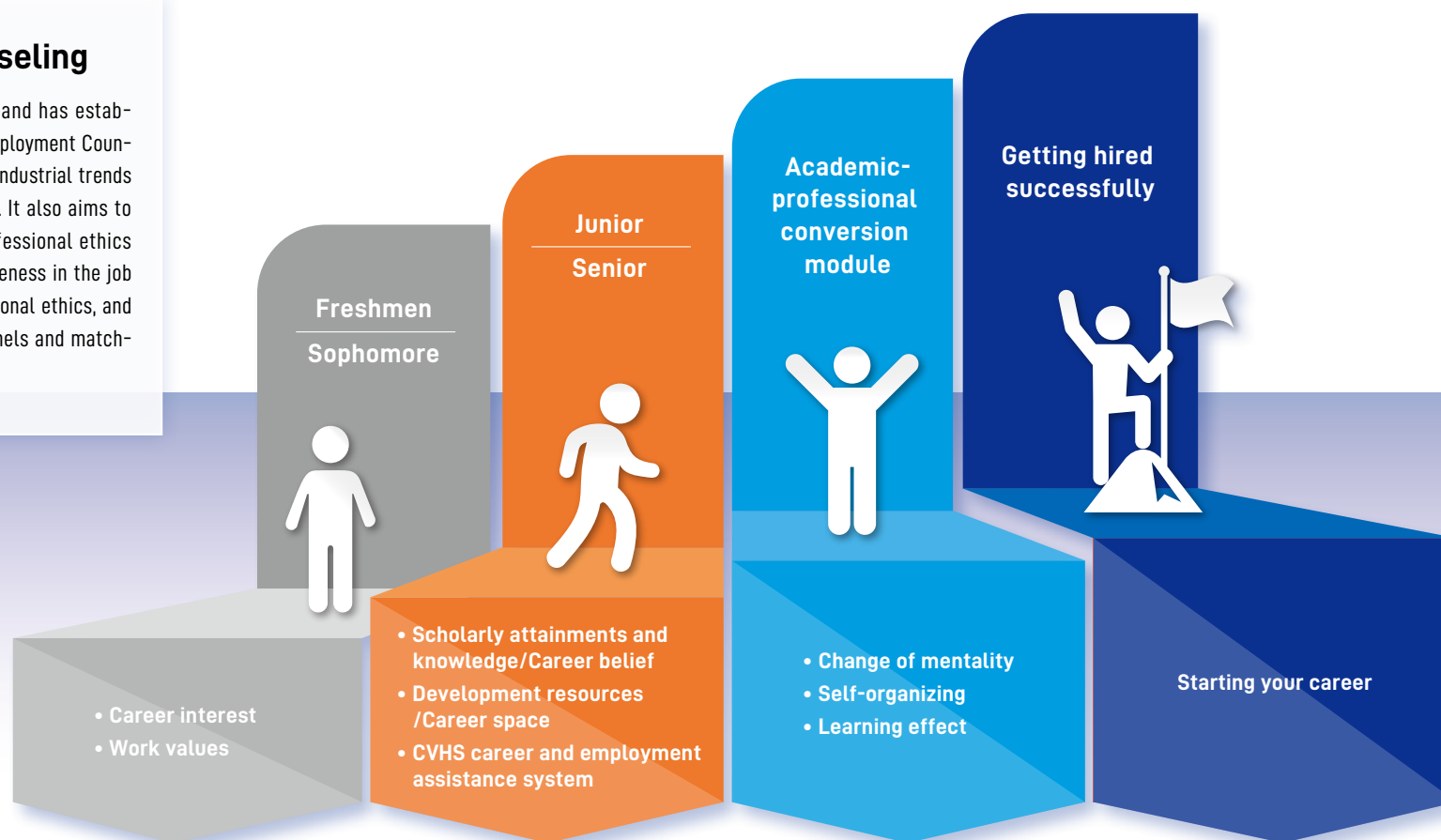


3.4 Cooperation and Exchange



Student Career Counseling

MCUT focuses on holistic education and has established an "Operating Procedure for Employment Counseling" to help graduates understand industrial trends and secure employment successfully. It also aims to instill a proper understanding of professional ethics in students, enhance their competitiveness in the job market, provide education on professional ethics, and strengthen employment service channels and match-making effects for graduates.



○ Employment counseling processes

MCUT actions					Effect (Quantitative data)			
	Office of Student Affairs	Office of Research and Development	Office of Academic Affairs	Other units	Office of Student Affairs	Office of Research and Development	Office of Academic Affairs	Other units
Admission of freshmen	Student Counseling Division: The division administers career exploration modules to first-year students, aiming to enhance their understanding of academic and career pathways, professional interests, and work values.				Student Counseling Division: A total of 14 sessions of UCAN [Career Interest Test] and [Generic Skill Test] were conducted, attended by 1,846 person-times.			
Sophomore year	Student Counseling Division: Sophomore students can utilize the "Using by Learning" and "Learning by Using" approaches in the required courses of specific departments. This will assist them in effectively organizing their schedules and developing skills that bridge classroom learning with real-world applications. Division of Internship and Career Services: - The Division of Internship and Career Services will organize work-study internship coordination activities for sophomore students during the second semester of their sophomore year to prepare them for their junior year internships. This will include teaching relevant workplace training themes and enhancing adaptability during workplace internships. - Students from all departments are encouraged to take exams and earn professional certificates. Additionally, certificate rewards will be given to those who meet the following criteria: obtaining professional certificates with grades A and B, verified by public and private organizations as explicitly defined by each department.				Student Counseling Division: 9 career counseling lectures were handled, and 229 people participated in these lectures. Division of Internship and Career Services: - It managed work-study internships, coordinated advance operational meetings for junior students, and conducted workplace quality training sessions for pre-interns. In 2024, a total of 80 teachers and student representatives attended the events. - The rewards paid for certificates in 2024 amounted to NT\$ 2,879,000.			
Junior year	Student Counseling Division: Before students begin their work-study internships in the first semester of their junior year, the division conducts pretests for ability development and skill assessment. This information helps understand students' current knowledge and skills and identify appropriate workplaces. Division of Internship and Career Services: - Manage student internship matchmaking operations during the first semester of the junior year, allowing students to select appropriate internship opportunities and participate in interviews organized by internship organizations. This enables them to experience the workplace interview process and enhance their employment competitiveness. - Arrange for students to engage in work-study internships at enterprise workplaces during the second semester of the junior year. After a year of off-campus internship experience, students are expected to bridge the gap between theory and practice.				Student Counseling Division: 11 sessions of UCAN Junior Student Generic Skill-Pretest were conducted and attended by 422 person-times. Division of Internship and Career Services: - In 2024, students were arranged to participate in 200 internship interviews. - In the 2022 academic year, 835 junior students were arranged to intern at relevant organizations.			
Senior year	Student Counseling Division: Conduct a skill assessment after the test in the first semester of senior year, following the completion of work-study internships. This will help evaluate students' skill growth over the year and identify the skills they wish to develop concurrently. Subsequently, senior year courses can be arranged accordingly. Division of Internship and Career Services: - Partner with the Labor Affairs Department of New Taipei City Government to organize large-scale campus talent recruitment activities, providing senior students and recent graduates with job opportunities and channels, and assisting them in finding suitable employment. - Organize enterprise talent recruitment explanation sessions and invite prominent enterprises to introduce job vacancies to students face-to-face, aiming to find suitable candidates to employ.				Student Counseling Division: A total of 19 sessions for the CVHS Competency Development Module (Post-Test) were conducted, with 885 participants. Division of Internship and Career Services: - In 2024, it partnered with the Labor Affairs Department of New Taipei City Government to organize the "2024 New Taipei City and MCUT Campus Employment Expo." During this event, 40 enterprises were invited to provide more than 2,800 job vacancies. 1,589 people participated in the activity. - In 2024, 6 enterprise talent recruitment explanation sessions were held, with 363 participants.			

○ Lecture series on employment counseling and employment expos in the past three academic years

Program	Academic year	2021	2022	2023
Lecture series on employment counseling		12	12	11
Number of participants in lecture series on employment counseling		861	845	855
Number of enterprise talent recruitment explanation sessions		4	8	6
Number of participants in enterprise talent recruitment explanation sessions		362	549	363
Number of large employment expos		1	1	1
Number of participants in large employment expos		678	693	1,589



Certificates and Second Expertise

To enhance students' professional skills, competencies, and workplace competitiveness, MCUT has established "Measures for Rewarding Students' Professional Skill Certificates" in coordination with Taiwan's certification system. Each department is required to identify the relevant types of professional verification certificates that can boost students' employability in line with their teaching goals and arrange certification study or counseling courses to help students achieve certificates through examinations. The Office of Library and Information Services and the General Education Center will implement measures governing information (computer) and language (excluding English) certificates to encourage students to develop their second area of expertise. During the 2023 academic year, graduates from the Undergraduate Program earned a total of 1,139 professional certificates with a grade of B or above while in school, averaging 1.08 certificates per student.

○ Statistics of certificates obtained by students in the past three academic years

College	Types of certificates obtained	2021	2022	2023
College of Engineering	Grade A	1	3	0
	Grade B	567	555	629
	Grade C	80	2	9
	Subtotal	648	560	638
College of Environmental Resources	Grade A	0	1	0
	Grade B	179	203	153
	Grade C	80	2	36
	Subtotal	648	560	189
College of Management and Design	Grade A	5	6	3
	Grade B	391	403	354
	Grade C	9	0	0
	Subtotal	405	409	357
Total certificates of the university		1,279	1,220	1,184

Graduate Direction Investigation

To enhance the employment rate and workplace competitiveness of students after graduation, we have established a comprehensive graduate tracking system in cooperation with the Ministry of Education. This allows us to track the employment trajectories of 90% of fresh graduates each year, as well as the employment conditions and self-evaluation of key skills for 75%-80% of graduates one year post-graduation. In the 2022 academic year, the results from the graduate follow-up survey indicated that the employment rate of graduates from the Undergraduate Program reached 93.1%, while those from the Master Program reached 88.2%. The average monthly salary of graduates from the Undergraduate School was NT\$ 41,347, compared to NT\$ 52,384 for graduates from the Master Program. Additionally, to assess whether alumni's employability and professional attitudes align with workplace requirements, MCUT conducts an employer satisfaction survey of 50-100 companies that have hired its graduates each year. The relevant survey results will serve as a key reference for adjusting the university's teaching direction.

Graduates' employer satisfaction survey in the past three years

Program \ Academic year	2022	2023	2024
Percentage of graduates' employer satisfaction	86 %	84 %	86 %

Graduation and employment rates in the past three academic years

Program \ Academic year	2021		2022		2023	
	Day School	Continuing Education	Day School	Continuing Education	Day School	Continuing Education
Number of students meeting the requirements for graduation years ¹	1,199	120	1,207	123	1,288	51
Number of graduates	1,033	96	1,036	95	1,012	38
Graduation rate	86.16 %	80 %	85.83 %	77.24 %	78.5 %	74.5 %
Overall graduation rate	85.59 %		85.03 %		78.4 %	
Graduate employment rate	93.2 %	98.4 %	91.2 %	98.1 %	The graduate employment rate is defined as the percentage of graduates who secure employment within one year after graduation. Therefore, the employment rate for the 2023 academic year was assessed at the end of 2025 and will be reported in a relevant document next year.	
Employment rate of the Undergraduate School	92.8 %		93.1 %			
Employment rate of the Master Program	96.9 %		88.2 %			
Overall graduate employment rate	93.7 %		91.9 %			

Note 1: Fresh graduates and students whose graduation was postponed due to not completing the required courses.

Alumni Relations

In 1969, MCUT established the Alumni Association to foster communication among its alumni and create a network. The association was officially registered as a social public welfare group, with its council members and supervisors elected and appointed by the members. MCUT hosts alumni experience-sharing symposiums and invites alumni with outstanding accomplishments or expertise to return to share their insights. We also offer students the chance to visit and learn from alumni across various fields.

In 2008, we launched the "Founder Wang Flame-Passing Scholarship." With regular donations from alumni, we aim to help exceptional students from underprivileged backgrounds successfully complete their studies. Since the launch of this program, our alumni have responded passionately, resulting in donations totaling approximately NT\$43.37 million.

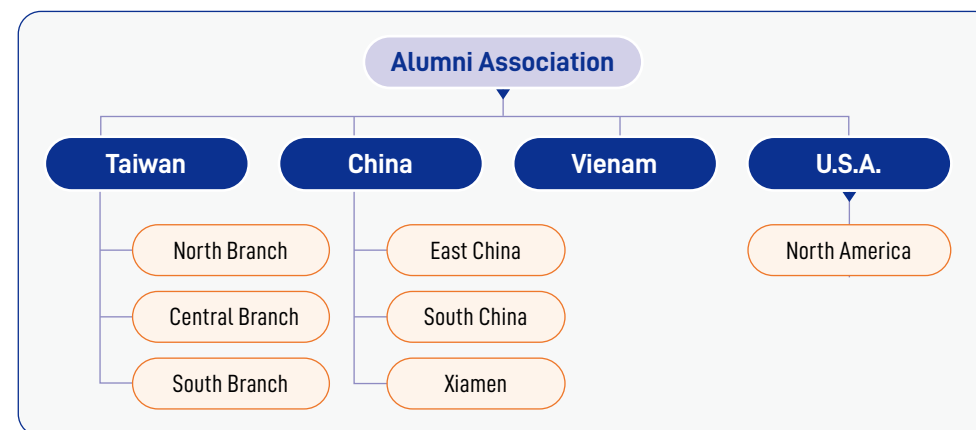
Statistics of donations from alums in the past three academic years

Program \ Academic year	2022		2023		2024	
	Amount (NT\$)	Subsidized person-times	Amount (NT\$)	Subsidized person-times	Amount (NT\$)	Subsidized person-times
Flame-Passing Scholarship	955,900	7	1,093,400	10	539,300	11
Grants for Supporting Disadvantaged Students to Fulfill their Dreams	2,024,197	619	2,032,500	704	2,451,800	Note ²
Other scholarships and grants ¹	3,561,740	15	2,749,917	14	1,252,600	10
Total	6,541,837	641	5,875,817	728	4,243,700	Note ²

Note 1: Other scholarships and grants include the Hsieh-I Kang Scholarship for Economically Disadvantaged Students, the ATrack Scholarship for Economically Disadvantaged Students, the Mr. Liu-Hsiung Hsieh Scholarship for Economically Disadvantaged Students, the Shan-Ming Chen Scholarship, a scholarship from the Alumni of the Department of Electrical Engineering, the Chan-Ming Wen Scholarship, a scholarship for Economically Disadvantaged Students from Teacher Ching-Sung Yeh in the Department of Mechanical Engineering, the Shi Dian Scholarship, the Elite Scholar Ship, the Social Responsibility Student Grant, the Fund for Dedicated Use of Funds Raised, and the Innovative Product Research and Development Project, among others.

Note 2: The donation for the Grants for Supporting Disadvantaged Students to Fulfill Dreams in 2024 will be executed in 2025 and reported in the annual report for the following year.

Organization Chart of Global Branches of MCUT Alumni Association





Industry-Academia Cooperation and Off-campus Internships

Industry-Academia Cooperation

The Office of Research and Development at MCUT has established an industry-academia cooperation platform that provides comprehensive services by connecting with relevant businesses from each department, research center, and the Innovation & Incubation Centre at MCUT. Through collaboration with the Bureau of Industrial Parks, Ministry of Economic Affairs, MCUT has supported the industrial transformation of relevant vendors. Specifically, it has coached up to 40 vendors in two industrial parks located in Tucheng and Shulin, integrating its abundant R&D, technology, and talent resources to meet the needs of these vendors regarding digital transformation, intelligent upgrading, and low-carbon development. As a result, we have helped the vendors enhance their competitiveness, build industry-academia partnerships, fulfill social responsibility, and achieve sustainable development together. Regarding the performance in promoting industry-academia cooperation, we allocated NT\$ 195 million to this effort in 2024. Although the number of industry-academia cooperation projects fell from 215 to 176, the funding per teacher for these projects raised by nearly NT\$ 1 million, placing us first among private technical colleges in terms of industry-academia funds per teacher. This demonstrates MCUT's commitment to mobilizing resources to enhance industry-academia cooperation and the resulting benefits. In 2024, the number of patent licenses saw a slight decline. To address this, the university has actively sought external funding subsidies, revised the measures for patent subsidies, engaged in discussions with the directors of each research center, and encouraged faculty members to apply for patents based on their research achievements.

Statistics of Annual Research Performance of the Organic Electronics Research Center

The Middle East Chamber of Commerce visited MCUT to explore the agency of a corporate industry-academia program for developing light therapy glasses.



MCUT's inaugural international industry-academia project with Silicon Valley in the United States. Development of an X-ray light panel for Carl Zeiss. (An international English contract between the two parties is being signed.)



The light therapy glasses were formally sold. (Winning Taiwan Excellence Award)



Jointly appointed a professor with KAIST (cooperating with teacher JY Lee to initiate a low-light power generation program). Signing of the MOA & employment ceremony of the part-time professor



Statistics of research performance in the past three years

Program \ Academic year	2022	2023	2024
Number of private industry-academia cooperation projects	185	215	176
Amount of private industry-academia cooperation (unit: NT\$ 10 million)	25.391	19.419	19.509
Number of technology transfer projects	14	14	20
Amount of technology transfer (unit: NT\$ 1 million)	10.3	10.9	18.9
Number of approved patent certificates	65	51	35
Number of vendors cultivated	26	33	36

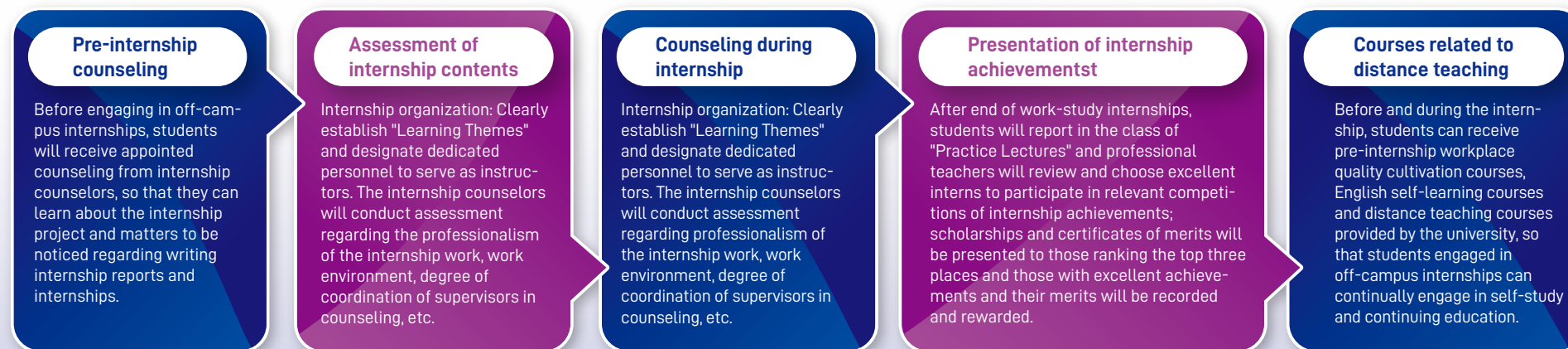


Off-campus Internships

MCUT has a unique work-study internship system aimed at developing well-rounded individuals with a strong work ethic, emphasizing both theory and practice along with a commitment to lifelong learning. The system follows a "Theory-Practice-Theory" approach, providing junior students with a one-year internship at partner companies. This internship enhances practical skills while also focusing on developing project management, interpersonal, leadership, and teamwork abilities, effectively bridging the gap between learning and real-world application. Upon graduation, students are well-prepared to enter the workforce seamlessly. To support students, we offer pre-internship workplace quality courses, self-paced English learning programs, and distance learning platforms for continuous education. Our faculty evaluates and approves all internship organizations to ensure high quality and recommends only the best options to our students.

MCUT collaborates with vendors to annually recommend students who have excelled during their internships. In 2023, a total of 201 students, representing 24.2% of the total student body, received recommendations. In addition to students suggested by each subsidiary of Formosa Plastics Group, other relevant TWSE/TPEx listed companies in industries aligned with MCUT's departments have also praised MCUT's interns. The university has developed a comprehensive internship counseling and assessment system. By implementing work-study internship courses at the Undergraduate School and taking appropriate measures, internship counselors regularly visit organizations where students intern to monitor their progress. They also work with internship supervisors to assess the impact of the internship on students at each stage. Upon completing their internships, students return to campus and participate in competitions to showcase their achievements. Each teaching unit adheres to a course learning map focused on practical internships to enhance the impact of internships on students. Guided by the United Nations Sustainable Development Goals (SDGs) and vocational education policies and guidelines, MCUT promotes off-campus internships and collaborates with enterprises to nurture talent and actively contribute to sustainable development in talent cultivation.

Work-study internship counseling mechanism



Statistics of work-study interns in the past three academic years

Program \ Academic year	2021	2022	2023
Number of interns	854	825	835
Number of counselors for work-study internship	149	160	161
Number of cooperative vendors	152	166	185

Number of excellent interns recommended by cooperative internship organizations in the past three academic years

Program \ Academic year	2021	2022	2023
Number of recommended interns	293	250	201
Ratio in the total number of interns	34.3 %	30.3 %	24.2 %

Satisfaction of junior students from day school with the work-study internship courses in the past three academic years

Program \ Academic year	2021	2022	2023
Internships can improve my ability to apply knowledge, skills, and tools.	86.29 %	90.4 %	89.28 %
I'm generally satisfied with the overall comments on this year's internship.	82.86 %	87.85 %	84.81 %

Note: After the internship ends, outstanding interns recommended by cooperative internship organizations will receive relevant rewards, including certificates of merit and documentation of achievements. Additionally, since the 2022 academic year, bonuses have been awarded to exceptional students who have been recommended after completing their internships in the same year to encourage their work-study performance during these internships. The Ministry of Education entrusted MCUT with establishing an "Off-campus Internship Project Promotion Office" in 2010 to help the Ministry of Education promote an off-campus internship course system for students from relevant technical colleges in Taiwan. This project office has been operating at MCUT for 15 years.

To learn about cooperative internship organizations' perceptions of MCUT students' performance in various aspects during the work-study period, MCUT conducts an annual satisfaction survey of these organizations at the end of each internship. In the 2023 academic year, there were 185 cooperative internship organizations. According to the survey results, over 86% of organizations indicated that MCUT students' overall performance met their corporate needs.



● Satisfaction survey of cooperative internship organizations in the past three academic years

Program	Academic year	2021	2022	2023
With an excellent working attitude and concept of professional ethics		89.84 %	91.92 %	88.36 %
With the ability to apply knowledge, skills, and tools		88.25 %	89.81 %	84.18 %
With good pressure resistance		88.57 %	89.23 %	86.36 %
With the habit and ability for lifelong learning		86.51 %	88.85 %	82.36 %
With a good attendance status		89.85 %	87.88 %	85.46 %
Overall performance complying with corporate needs		89.68 %	91.54 %	85.82 %

Note: The overall internship satisfaction rate slightly declined during the academic year 2023. The primary reason was that the interns had previously experienced online teaching due to the pandemic, which resulted in less interpersonal interaction. Consequently, the supervisors of the internship organizations tended to compare them unfavorably with previous interns. The school will continue to pay attention to the students' off-campus internships and invite advisors to consistently monitor their internship performance.

Enterprise-funded Students of Formosa Plastics Group ►

Since the 2021 academic year, students from relevant departments at MCUT related to the needs of Formosa Plastics Group may apply for the qualification of enterprise-funded students of the Group if their academic performance meets the selection standards. The average academic score should be 70 points or higher, and the class ranking must be within the top 30%. Those ranked in the 11-30% range need to attach their mentors' recommendations. The operational score should be 80 points or above. An enterprise-funded student of Formosa Plastics Group can receive a monthly payment of NT\$ 36,700, which is higher than the average internship salary of NT\$ 29,000. After the internship period ends and the submission of internship reports, interns will receive internship scores and employment verification from the internship departments to determine their eligibility for recruitment as formal employees. If interns meet the recruitment criteria, they may receive scholarships for enterprise-funded students of Formosa Plastics Group. Specifically, undergraduates will receive a lump-sum payment of NT\$ 400,000 for a service term of 4 years, while master's graduates will receive a lump-sum payment of NT\$ 500,000 for a service term of 5 years. Consequently, outstanding students seeking employment can undertake internships before graduating and secure jobs afterward. Students applying for the "Bachelor-Master Program" may also remain at the research institutes of MCUT and subsequently serve enterprises after graduation. Currently, five interns were recruited as enterprise-funded students of Formosa Plastics Group in the 2021 academic year, while this number was 3 in the 2022 academic year and 8 in the 2023 academic year.



Overseas Internship ►

In 2006, MCUT launched the "Overseas Study for Dream Fulfillment Project" to assist students in gaining international experience through work-study internships. This new initiative for Taiwanese universities offered students valuable opportunities to intern with companies abroad. In 2022, the university revived the program and arranged for 14 students to intern at Inteplast Group in Texas, USA.



Internal Exchange and External Participation

Internal Exchange

On December 1, 2021, MCUT's Board of Directors approved the elevation of the International Affairs Center, which was originally under the Office of Research and Development, to a level-1 unit known as the Office of International Affairs. This new office has established the "Division of Global Cooperation and Exchange" and the "Division of Overseas Student Affairs." These divisions oversee overseas exchange programs, local students' affairs abroad, as well as international admissions and counseling for overseas students. This restructuring aims to consolidate school resources and leverage our teams' expertise to enhance our internationalization efforts. The Ministry of Education's New Southbound Policy mandates that MCUT focus on expanding its student recruitment from Southeast Asian countries. MCUT actively engages in international education exhibitions and annual educator conferences to strengthen its global standing and build robust partnerships. In the 2023 academic year, we participated in two annual educator meetings and eight physical and online education exhibitions. For further details, please visit [the MCUT Corporate Social Responsibility website](#). Beyond forming partnerships with various institutions, we have created transnational programs in collaboration with esteemed overseas academies. Our goal is to decrease students' study duration through mutual credit recognition and to encourage involvement in international projects. All students selected for overseas study are closely monitored by our partner schools, aiming to cultivate a reliable and high-quality source of international students.

International exchange expenses in the past three academic years

Unit: NT\$

Program	Academic year	2021	2022	2023
Participation of MCUT students in local internationalization activities and overseas exchange activities		2,511,966	6,293,411	9,434,992
Participation of students from overseas sister schools in MCUT's international exchange activities		884,899	3,320,375	2,523,732
Invitation of international experts and scholars to conduct exchange lectures at MCUT and participation in overseas education exhibitions and annual meetings of educators		195,160	1,621,347	3,567,980
Scholarships and grants for overseas (non-) degree students		11,446,524	14,812,408	13,867,334
Total amount		15,038,549	26,047,541	28,876,783





Since 2021, MCUT has participated in international evaluations, such as Times Higher Education World University Rankings, to enhance its visibility and establish its brand image in the global community. We hope that through friendly competition with excellent schools worldwide, we can continually refine each measure and bolster our international competitiveness. In recent years, MCUT has actively pursued external development and collaborated with sister schools on various student exchange activities. To encourage students to step out of their comfort zones during their academic journey, we established a student overseas exchange and learning project called "MCUT Around the World" in 2017. Based on a four-part framework that includes short-term study tours, attendance at international seminars, exchange learning programs, and dual-degree studies, we aim to help students progressively gain international experience. By participating in this project, students can acquire professional knowledge in their fields, experience local cultures, improve their English and other foreign language communication skills, obtain prior international exchange experience, and significantly enhance their global perspectives.

● **Number of effective sister schools of MCUT and number of schools with cooperative programs in the past three academic years**

Program \ Academic year	2021	2022	2023
Number of foreign sister schools	72	98	142
Number of schools with transnational Program cooperation	26	30	36
Number of admitted overseas degree students	53	57	53

Note: Cooperative programs like the dual degrees system, the 3+2 Program, and the 5+1 program.

● **Achievements of overseas exchanges of MCUT students in the past three academic years**

Program \ Academic year	2021	2022	2023
Short-term study tours	87	110	134
International seminars	13	63	106
Exchange learning	0 ²	2	7
Dual degrees system ¹	8	5	7

Note 1: The dual degree system refers to a system under which MCUT signs a relevant agreement with a foreign university to recognize course credits mutually, and students who comply with the graduation provisions of these two universities can obtain their academic degrees simultaneously.

Note 2: No students went abroad for exchange learning in the 2021 academic year due to the impact of the pandemic.

3.5 Innovative Research and Development Achievements

Research and Development Center

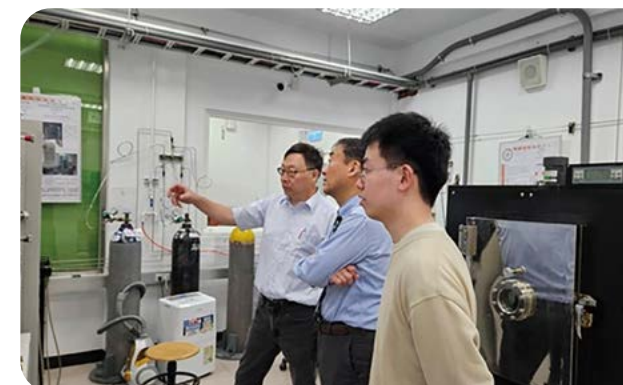
The university's development focuses on the fields of "Health Biotechnology," "Medical Care," "Green Energy Technology," "Plasma Technology," "Design Services," and "Smart Vehicles." To encourage and guide faculty members in participating in industry-academic research and development, the university focuses on enhancing research and development capabilities and increasing the applied value of industrial technology. The university supports the evolution of distinctive research Centers, progressively establishing practical and applied research and development Centers. This strategy utilizes existing cutting-edge research capabilities to bolster key industries and enhance industrial competitiveness. To date, a total of 10 corresponding school-level and college-level research Centers have been established, including ten school-level research Centers and four college-level research Centers.

Shun-Wei Liu, a teacher from the Organic Electronics Research Center, cooperated with Formosa Biomedical Technology Corporation to establish a trial and volume production factory specializing in the research and development of OLED light therapy glasses technology. By the end of 2023, this technology was successfully commercialized, and the light therapy glasses were launched on the market. A technology transfer fund of NT\$ 1 million was obtained, along with 4% of the annual sales amount allocated as loyalty. Additionally, this product won the "Taiwan Excellence Award" from the Ministry of Economic Affairs in 2024, fully demonstrating the value of technology transfer to market application. Yu-Ching Huang, a teacher from the Biochemical Technology R&D Center, has cooperated with FrontMaterials Co., Ltd. for the long term to establish a co-construction research center focusing on the R&D of perovskite solar cells. The industry-academia cooperation amount between the two parties exceeded NT\$ 5 million, and technology licensing was successfully implemented. A license fee of NT\$ 800,000 was obtained as well. The opportunities for commercialization of technology have been strengthened through industry-academia technical cooperation.



Research Performance

MCUT encourages teachers to actively publish academic papers by implementing various incentive measures. As a result, the number of journal papers continues to rise. The number of SCI (Science Citation Index)/SSCI (Social Science Citation Index) papers increased from 564 in 2022 to 569 in 2024, reflecting a growth rate of 0.9%. The number of papers published per capita by teachers ranked 1st among all universities of technology in Taiwan in 2024. Regarding the quality of these papers, the mean Impact Factor (IF) increased from 5.74 in 2022 to 5.82 in 2024, demonstrating a growth rate of 0.8%.



○ Paper publications of MCUT in the past three years

Program \ Academic year	2022	2023	2024
Number of SCI papers	510	457	536
Number of SSCI papers	54	34	33
Total	564	491	569
Number of teachers	202	207	206
Number of papers published on average	2.79	2.37	2.76
Mean value of IF	5.74	5.95	5.82

Note: Number of teachers refers to the number of teachers with a level of lecturer or higher.

Participation in Government Research Projects

MCUT encourages teachers to actively pursue research projects from government departments and commissions while allocating resources to shape research characteristics. In recent years, our teachers have secured various types of NSTC projects, including general research initiatives, new employee research projects, programs encouraging vocational and technical colleges to engage in practical research, industry-academia cooperation projects, and industry-academia technical alliance cooperation projects. Additionally, projects from the Ministry of Education focus on cultivating female R&D talents in STEM fields at colleges and universities and establishing regional industrial talent and technology incubation bases. Other government initiatives encompass project-oriented scholarships and grants, industry-academia projects, academic research projects, entrusted training projects, and various other projects.

○ Average Number of Projects Awarded per Teacher in the Past Three Years

Program \ Academic year	2022	2023	2024
	Number of projects acquired	Number of projects acquired	Number of projects acquired
NSTC	74	83	110
Ministry of Education	33	43	36
Other government agencies	36	37	39
Total Number of Government Research Projects	143	163	185
Number of teachers	202	207	206
Average ^{Note 2}	0.71	0.79	0.90

Note 1: Number of teachers refers to number of teachers with level of lecturer or above.



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



02

一、新北產業永續發展2.0計畫

二、Co-op Design—走入三角湧社區文化生活實驗

三、北臺首學帶狀文物館深耕計畫

四、實踐基地計畫

1. 性別平等概念宣導英語說故事服務多國學童計畫

2. 校園永續食農教育推廣計畫

3. 淡水河流域環境紀錄暨環境教育計畫

五、孵育型計畫

1. 蒙古烏蘭巴托偏鄉在地關懷與實踐計劃

2. 跑動明志，永續新北

3. 永續高齡友善校園運動環境

4. 廢棄蛋殼永續材料再生計畫

5. 一起環保旅行吧！！水循環科技行動展示教具箱

6. 咫尺峇里，教育前行：balinese cultural exchange

新北產業永續發展2.0

計畫主持人 | 林晉寬 管理暨設計學院 特聘教授兼院長

（一）. 問題意識與計畫目標

為推動新北區域產業聚落的經濟永續發展，團隊深入分析並針對企業面臨的多重挑戰提出解決方案，這些挑戰包括國內勞工素質不足、國際貿易壓力、缺乏SDGs相關認知，以及智慧化轉型的困難。基於過去成果，團隊持續推動企業實現智慧化升級與產品多元化加值，並整合政府資源，提供廠商更全面的支援。通過創新教育課程、跨領域合作、ESG行動方案及循環經濟理念，促進學校、區域產業和社會文化資源的共同發展。同時，與企業及學生合作，共同設計廢棄物再利用的創新產品，提升區域經濟競爭力，進一步建立新北市經濟永續的生態系統。

（二）. 執行策略及重點

一、延續「專業+創新」的理念提升企業經濟成長能力，打造友善工作環境，導入AI、智慧生產、數位轉型、品牌行銷等增進企業競爭優勢，如與零網國際公司辦理兒童程式入門課，與智泰科技公司進行AI培訓系列課程、辦理產業論壇講座，以及與朋友家登山用品社、工管系師生合作進行專題製作。二、協助廠商推動ESG行動方案，設立「USR企業永續工作站」，鏈結工設系、視傳系師生製作永續發展主題的產品，協助綠色產品設計、生產行銷推廣等，如專題設計課程產品《草影誌》、《珊瑚虛實整合MR教具》、《鐵窗銀花》等。三、推動綠色永續設計活動與課程，活化廢棄紙張與寶特瓶製作成具藝術感的紙漿作品與特色燈罩，如辦理SDGs永續紙材工作坊、製作永續燈罩課程。四、推廣SDGs之優良書籍，以Podcast的形式錄製並進行產業議題的推廣。

今年度參與共約2,380名學生及127位教師投入產業多面向，並邀請業界專家分享企業資源之場域規劃、精實生產之製程應用及人工智慧運用於異常影像辨識等，辦理8場SDGs產業論壇，參與人員共802人。透過跨域、跨境結盟活動，以設計思考及創新課程，帶動SDGs的行動方案由陳琨太老師、鄭有為老師指導「SDGs台灣環境永續發展-淡水匱乏」、陳進隆老師與薄蓉薇老師指導「SDGs創新與基礎設施-負擔得起的清淨能源」等，以綠色永續X產品設計議題，鏈結企業(南亞科技)與師生(明志科大)，參與人員共320人。從系列活動，培育具備企業發展所需之優秀人才。



實地至產業場域參訪



與產業交流互動



邀請業界專家進行經驗分享

（三）．實質進度與亮點成果

為了解新北地區產業脈動，深入訪視新北製造、加工業114家廠商，彙整出生產研發、智慧轉型、人才招聘、ESG實現壓力等需求，導入跨域跨校團隊能量，在技術或研發方面輔導臺灣富士模具、群旭科技、漢來塑膠包裝等12家廠商，協助流程改善及智慧化升級，創造更具競爭力、吸引人才的友善工作環境。針對企業ESG實現壓力，幫助廠商推動節能減碳、碳盤查等ESG行動，共2案。人才培育方面，開設6門創新教育課程，參與人員共1,637人，例如與南亞科技合作開設創意整合實作跨域PBL課程探討綠色永續議題、與零網國際合作開設兒童程式入門課程以啟蒙幼兒園至國小學齡兒童的邏輯思維等。同時透過USR企業永續工作站鏈結師生製作綠色永續產品設計，協助企業進行產業轉型與創新，共12案，參與學生共47人。辦理SDGs永續紙材工作坊與製作永續燈罩之課程，及推廣產業永續議題為旨舉辦8場SDGs產業論壇，參與人員共802人，例如邀請優勝奈米科技主講「3C電子產品的循環經濟與企業的永續發展模式」分享永續思維的商業模式。利用影音多媒體發佈「明志USR SDGs好書推薦」、「AI影像辨識技術」等16件產業議題推廣影片。

執行成果為四個方向：

1. 產業需求訪視與技術輔導：團隊以新北市區域產業聚落為基礎，聚焦於SDGs及ESG永續發展相關指標，作為輔導工作的核心。由教師帶領學生組成小組，深入訪查，透過不定期拜訪指定區域內的重點廠商，了解其現階段的困難與需求，並針對產業面臨的挑戰進行問題挖掘與需求分析。另由師生組成專案小組，輔導廠商產品加值、智慧化升級等技術提升，例如張秉裕老師帶領專題生與朋友家登山用品社以Python為基礎協助中小企業電子化與智慧化；與零網國際公司共同辦理兒童程式入門課程，與智泰科技共同辦理VisLab影像分析教育訓練課程。



訪視與技術輔導



張秉裕老師帶領專題生進行專題製作



辦理兒童程式入門課程



辦理AI培訓課程

2. USR企業永續工作站：團隊鏈結視傳系、工設系師生47人以及全方位數位輸出公司、千業印刷公司、正詠資訊公司(雕刻部)等企業合作透過專題課程製作以永續發展為主題的12件產品設計，藉著探討產業文化、生態永續發展的主題，尋求協助企業轉型與創新的辦法，作品也榮獲國際大獎肯定。為推廣鐵窗花文化團隊也與學生共同延伸製作出鐵窗花資料夾。



專題設計課程—《草影誌》



專題設計課程—《珊瑚虛實整合MR教具》



專題設計課程—《鐵窗銀花》



專題設計課程延伸鐵窗花資料夾

3. 綠色永續設計活動與課程：

透過與霧的森林工作室許方瑜老師合作辦理SDGs永續紙材手作體驗工作坊，與參與25位職員師生共同活化日常廢棄紙張如紅包袋和發票，製作成具藝術價值的紙漿作品，以推廣紙張循環利用與紙材永續理念。與黃啟梧老師共同辦理基本設計課程，帶領7位來自四個不同國家的學生進行燈罩製作，透過在地回收的大量廢棄寶特瓶作為材料，結合課程實作，設計永續燈罩，展現環保與再利用的精神，並傳遞永續設計的理念。



製作紙材作品



永續紙材工作坊大合照



老師指導學生製作永續燈罩



永續燈罩製作成果

4. 產業議題推廣：

團隊錄製《明志USR—SDGs好書推薦》Podcast系列EP01-EP09，以永續發展目標(SDGs)為主題，邀請本計畫推動人員，透過獨白形式分享所閱讀各永續領域專家學者撰寫之書籍內容精華及探討有關SDGs及永續相關的重要議題，並以Podcast進行推廣。如EP07「精實管理的永續實踐」探討精實管理與永續發展如何結合，剖析資源效率與環境保護的平衡，從精實管理、策略實踐到國際案例，展現了永續經營的必要性與可行性，並為企業提供實踐框架，協助ESG目標實現與卓越經營。



Podcast系列節目錄製



明志USR SDGs好書推薦 EP07封面

榮獲：2024 TSAA第四屆台灣永續行動獎 大學類SDGs9 銀獎

榮獲：2024巴黎DNA設計大獎 Winner—Beautiful Island of Formosa、Women Are Not Commodities, Nor Entertainment Toys、Impressions of TAIWAN

榮獲：2024巴黎DNA設計大獎之平面設計/包裝設計類 Winner、2024紅點品牌暨傳達設計大獎 包裝設計類 Winner—鐵居所

榮獲：2024巴黎DNA設計大獎之傳達設計類 Honorable一鐵窗銀花、草影誌

榮獲：2024美國傳達藝術年度獎 Design Shortlist一草影誌、鐵居所

榮獲：2024繆斯創意獎 銀獎、2024全國技專校院學生實務專題製作競賽 商品設計群 第二名一鐵居所

榮獲：2024第33屆時報金犢獎全球銀獎、台灣賽區第一名一祈旺傳承 延續幸福

榮獲：2024金點新秀贊助特別獎 入圍一WangBu 寵物公園智慧管理系統

榮獲：2024IDA國際設計大獎 Bronze、2024繆斯創意獎 銀獎、2024育秀盃評審特別獎、2024美國ADC YOUNG ONES AWARDS入圍一易立充電柱

榮獲：2024美國ADC YOUNG ONES AWARDS、2024美國建築大師獎Best of best、2024繆斯創意獎 銀獎、2024綠色生活創意設計大賽 佳作一SDC

榮獲：2024台灣國際創意設計大賽 產品設計佳作一福壽螺撈除水稻苗種植機

榮獲：2024育秀盃創意獎工業設計類 優選一廢油製皂機

榮獲：2024康寧創星家 優選一MOGT 模組化臭氧垃圾車

榮獲：2024【淨零世界 電幻同行】攝影徵件活動 金獎一翼·

榮獲：2024 匠設計獎kW Design Award 大專院校組 優選獎一日常用電知多少

榮獲：第三屆全國AI圖像辨識應用競賽 大專院校組冠軍

榮獲：2024大學生專題論文與技術報告競賽 第二名一應用以數據為基的人工智慧技術於參數優化之實務研究：以台灣中小企業塑膠工業廠商為例

榮獲：2024台灣金星設計獎 海報設計類 特優獎一草影誌

榮獲：2024美國C2A創意傳達設計獎 書籍類 - Winner、藝術與文化書籍類 Winner及海報類 Winner一鐵窗銀花

榮獲：2024臺灣國際學生創意設計大賽 視覺設計類 佳作一草影誌



聯合辦理2024泰山祈天鼓藝展演



參與2024亞太永續博覽會



參與2024泰山獅王文化節



辦理SDGs永續公仔彩繪工作坊

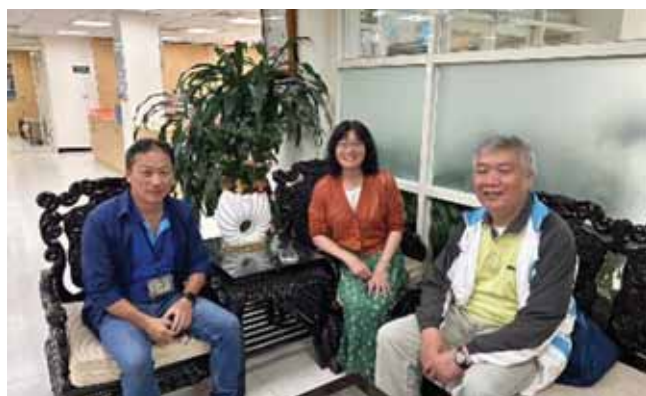
(四). 附錄



教師訪談



學生訪談



在地廠商訪談

人才培育課程/學生/張●楷

參訪八里垃圾焚化廠後，對其先進的焚燒技術和嚴格的污染控制措施印象深刻。廠內高效的能源回收系統和環保設施展示了對廢物處理的科技創新和環境責任。

人才培育課程/學生/楊●榕

之前來八里常常都是看海的行程，在路途上也會看到很多工廠建築物的存在，經由這次的參訪活動，讓我更了解垃圾焚化廠的運作方式，垃圾從家庭垃圾甚至到工業垃圾，都有它們獨特的處理方式，今天一進去到參觀廠區時，志工人員就非常熱心詳細地解說，後來才發現原來她們都是住在八里的媽媽們，非常可愛且熱心。

人才培育課程/學生/黃●承

下午，我們參訪了新北產業園區的污水處理場，這次參訪讓我對污水處理的過程有了更深入的了解。在參訪過程中，我們透過影片詳細地學習了污水處理的各個環節，這讓我們更直觀地了解了這個看似複雜但至關重要的系統。

人才培育課程/學生/洪●傑

今天下午參訪新北產業園區廢水處理廠讓我深刻體會到現代環保技術的精密和重要性。廠區內先進的水處理設施和高效的過濾系統讓我印象深刻，這些技術不僅有效去除污染物，還能保證排放水質達到標準，保護周圍環境的水資源。

人才培育課程/學生/李●穎

參觀了這個活動我明確的認識到污水從污水處理廠經過一層一層的過濾、淨化後，最終成為放流水的過程，在污水處理廠的各位哥哥大姐姐也都很細心的像我們介紹各個流程的運作方式與原理，而在園區當中也有相當有趣的水資源介紹展覽館，與種植著許多花卉植物的步道，整體下來相當好玩有趣，既認識到了新知識又不失趣味，真的非常棒！

人才培育課程/學生/王●玲

在這次的演講中讓我瞭解到原來電子產品廢棄物裡有非常多的價值，並且在我們小時候生活中覺得平平無奇的回收方式原來在環境帶來那麼多的傷害，在循環經濟演講中我看到更環保的提取方式讓我嘆為觀止，我覺得非常的經驗，希望未來我們也能往綠色產業發展為環境出一份力！

人才培育課程/學生/曾●堂

電子垃圾是現代人的共同問題，需要大家共同解決，目前已經有許多的方法可以使用了，今天回到母校的校友他的公司就是這方面的專家，專門處理電子產品回收，是環境保護的重要功臣。

USR企業永續工作站/學生/馮●璇

在設計教具產品時，我深刻體會到需要平衡美觀與功能性。珊瑚的形態多樣，因此設計需要考慮到其特殊的結構，以確保教具能夠有效地傳達知識。同時，我們也要注重保護生態資源，避免對海洋生態造成不良影響。因此，我們將可持續性納入設計考量，選用環保材料並設計可循環再用的產品。這次設計體驗讓我更加重視生態保護與美學設計的結合。

USR企業永續工作站/學生/陳●璇、陳●、陳●婷、黃●婷

對於我們來說最大的驚喜，無非是在實地探訪與資料蒐集的過程中，發現鐵窗花的多樣性、可能性，原來鐵窗花並不是只有美觀及遮擋功能，更多蘊含了當地的民俗文化與歷史故事，也藉此發展出許多不同含意的花紋。

工作坊活動/職員/吳●穎

塑膠材質無法短時間內分解，不要以為與自己沒有關係，魚類吃到微小的塑膠微粒後，無法消化分解，最後還是上了餐桌並進入人類的體內，讓我們要注意環保、分類、減塑。

工作坊活動/職員/趙●鈞

永續公仔理念而生成的存錢筒不僅能教我們重視環境的教育，也能通過彩繪的過程深思，如何減少對環境的汙染。

工作坊活動/職員/蔡●伶

動手設計具有環保材質的存錢筒，再加上地方文化的特色，屬於獨一無二的作品，很好玩。

工作坊活動/職員/楊●瑜

這次的活動很有趣，老師也很認真！

第一次嘗試用再生的紙漿做作品，讓本來就喜歡手作的我很樂在其中，雖然等待白膠乾的時間有點漫長，但也剛好可以趁這個時間思考下一個步驟。

工作坊活動/職員/涂●萍

很棒的體驗，原來紙可以做這麼多有趣的東西。

工作坊活動/學生/陳●綦

我覺得這是一個很棒的活動，讓我發現一個特別的材料——木薯粉。然後非常感謝活動工作人員！

產業永續・攜手共創



疫後蛻變嶄新局・產業E起向前行
產業輔導發表會



《明志USR》Podcast | EP3 何謂減廢設計



《明志USR》EP4 創新營運模式，促進地方創生



《明志USR》EP5 AI影像辨識技術



《明志USR SDGs好書推薦》EP3 零碳實踐革命



《明志USR SDGs好書推薦》EP04 永續發展新紀元



明志USR新北產業永續發展2.0



明志科大USR-新北產業永續發展2.0

共同績效指標達成

量化成果	質性成效
師生參與成效 【計畫參與老師】：128位 【修課學生】：3536位 【教師交流活動】：19場	1. 師生透過訪視與廠商進行密切聯繫，並結合課堂實際操作與實際解決議題，建立學生實作能力。 2. 跨系師生將場域問題導入課程並從手繪草圖、3D建模、原型打樣製作、包裝設計、行銷策略。 3. 連結文創、行銷、工程、設計及成果製作等多元領域綜合應用。
校外人士參與成效 【合作社群】：17間 【合作學校】：18間 【參與社區實踐活動】：74位	1. 多次邀請業界人士舉行產業議題講座，使師生瞭解產業現況。 2. 把握跨域、跨校合作機會，吸取經驗作為執行參考。與龍華科技大學、中華科技大學、致理科技大學、醒吾科技大學、亞東科技大學、黎明技術學院、國立臺北商業大學、德明財經科技大學、聖約翰科技大學、國立臺東專科學校等合作。
教師成長績效 【USR案例分享】：14次 【產業講座】：24場 【教師研習與跨校共學活動】：13場	1. 產業講座與創新課程執行課程中老師也一同參與實地訪查，利於課堂中帶領學生給予指導、方向。 2. 學生依照各自領域發揮專業，增加教師成就。
USR激勵機制之推動成效 【產業課程場次】：25場 【參與老師】：56位 【參與學生】：1417位	1. 學校在師資資源與校內自籌款經費上給予全力的支持，配合USR計畫之推動，設置校級USR專案辦公室，並制定參與教師的獎勵措施，及挹注相對的配合款與協作兼任助理人力，支持師生進行專題與工讀實習之補助。 2. 各單位老師因計畫的執行緊密結合研發能量，形成一個跨領域團隊來提升解決問題的層次。
跨領域整合課程之推動成效 【學程/課群】：6門	運用課程將產業議題以專題方式協助解決解決並舉辦產業問題論壇，帶領學生參與短期見習，讓學生吸收新知、運用學術理論結合實務。

113年度計畫執行效益目標

編號	執行要項	預定目標	實際完成
1	廠商需求訪視	訪視50家次廠商。	已訪視114家廠商。
2	產業議題推廣	製作影音新媒體推廣5件。	已發表16件。
3	技術或研發輔導	由廠商需求訪視中，選出12家技術輔導，期能透過申請政府計畫，協助廠商升級轉型。	已輔導12家。
4	SDGs產業論壇	為推廣永續指標與產業生態，故擬舉辦6至10場產業問題論壇。	已完成共8場，參與人員共802人。
5	USR企業永續工作站	推行引強扶弱、弱弱相挺模式，建立工作室運作制度，協助廠商進行USR、ESG永續企業化至少6件/參與學生10人。	已執行共12件，參與人員共47人。
6	研提政府計畫	依照廠商實際狀況，協助園區廠商研提政府研發計畫1案。	已執行2案。
7	產業文化講座	對於弱勢族群、外籍人士與新住民，故擬舉辦產業文化與社會關懷相關講座2場。	已舉辦2場，參與人員共18人。
8	學生職場體驗	使工讀實習學生增加ESG的體會，並能運用多元形式呈現學生參與體驗的成效，5案/參與學生30人。	共5案，參與學生共103人。
9	創新教育課程	結合PBL之優質教育課程至少2門/參與學生10人。	已進行共6門，參與人員共1,637人。
10	建立廠商多元夥伴關係	協助廠商建立良好的多元夥伴關係，並在公平交易下，善盡生產與消費責任，跨廠商合作鏈結至少4案。	共4案，參與人員共425人，持續建立中。
11	跨校合作	結合跨校資源與師生，跨校合作至少2案，參與師生至少10人。	已執行共2案，參與人員共1,096人。
12	綠色設計行動方案	設計出能減少對環境的負擔以零碳、綠能、綠色生產為目標，同時提供人們更健康、更友善的生活設計至少1案。	已執行共6案。
13	獲獎殊榮	榮獲 2024 TSAA第四屆台灣永續行動獎 大學類SDGs9 銀獎 榮獲 2024巴黎DNA設計大獎 Winner－Beautiful Island of Formosa、Women Are Not Commodities, Nor Entertainment Toys、Impressions of TAIWAN 榮獲 2024 巴黎DNA設計大獎之Graphic Design /Packaging類 Winner、2024紅點品牌暨傳達設計大獎 包裝設計 Winner－鐵居所 榮獲 2024 巴黎DNA設計大獎之傳達設計類 Honorable－鐵窗銀花、草影誌 榮獲 2024美國傳達藝術年度獎 Design Shortlist－草影誌、鐵居所 榮獲 2024繆斯創意獎 銀獎、2024全國技專校院學生實務專題製作競賽 商品設計群第二名－鐵居所 榮獲 2024第33屆時報金犢獎全球銀獎、台灣賽區第一名－祈旺傳承 延續幸福 榮獲 2024金點新秀贊助特別獎 入圍－WangBu 寵物公園智慧管理系統 榮獲 2024 IDA國際設計大獎 Bronze、2024繆斯創意獎 銀獎、2024育秀盃評審特別獎、2024美國ADC YOUNG ONES AWARDS 入圍－易立充電柱	

13	獲獎殊榮	榮獲 2024美國 ADC YOUNG ONES AWARDS、2024美國建築大師獎Best of best、2024繆斯創意獎 銀獎、2024綠色生活創意設計大賽 佳作—SDC 榮獲 2024台灣國際創意設計大賽 產品設計佳作—福壽螺撈除水稻苗種植機 榮獲 2024育秀盃創意獎工業設計類 優選—廢油製皂機 榮獲 2024康寧創星家 優選—MOGT 模組化臭氧垃圾車 榮獲 2024【淨零世界 電幻同行】攝影徵件活動 金獎—翼· 榮獲 2024 珥設計獎kW Design Award 大專院校組 優選獎—日常用電知多少 榮獲 第三屆全國AI圖像辨識應用競賽 大專院校組冠軍 榮獲 2024大學生專題論文與技術報告競賽 第二名—應用以數據為基的人工智慧技術於參數優化之實務研究：以台灣中小企業塑膠工業廠商為例 榮獲 2024台灣金星設計獎 海報設計類 特優獎—草影誌 榮獲 2024美國C2A創意傳達設計獎 書籍類 - Winner、藝術與文化書籍類 Winner及海報類 Winner—鐵窗銀花 榮獲 2024臺灣國際學生創意設計大賽 視覺設計類 佳作—草影誌
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