

Sustainability Report of College of Future

I. Sustainable Development Vision

According to the Medium-Term Plan for School Development (2021-2025) and the vision of sustainable development in line with the 17 Sustainable Development Goals (SDGs) of United Nations by 2030, we coordinate and implement academic research, university-industry cooperation, education and sustainable goals for the sustainable development of economy, society and environment in and out of Taiwan.

II. Sustainable Development Goals (SDGs)

College of Future

Index	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 ACCIÓN POR EL CLIMA	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE AND JUSTICE, STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
Course and Education	V	V	V	V	V	V	V	V	V	V	V	V		V	V	V	V
Academia and Industry University Cooperation	V	V	V	V				V	V		V						V
Academic Research		V	V	V		V	V		V		V	V	V				

Our sustainable development goals pursue the sustainability of economy, society and environment with the concept of university education and social responsibility.

Sustainable Key Goals of **Course and Education** Include : SDG 1(NO POVERTY) 、SDG 2(ZERO HUNGER) 、SDG 3(GOOD HEALTH AND WELL-BEING) 、SDG 4(QUALITY EDUCATION) 、SDG 5(GENDER EQUALITY) 、SDG 6(CLEAN WATER AND SANITATION) 、SDG 7(AFFORDABLE AND CLEAN ENERGY) 、SDG 8(DECENT WORK AND ECONOMIC GROWTH) 、SDG 9(INDUSTRY, INNOVATION AND INFRASTRUCTURE) 、SDG 10(REduced INEQUALITIES) 、SDG 11(SUSTAINABLE CITIES AND COMMUNITIES) 、SDG 12(RESPONSIBLE CONSUMPTION AND PRODUCTION) 、SDG 14(LIFE BELOW WATER) 、SDG 15(LIFE ON LAND) 、SDG 16(PEACE, JUSTICE AND STRONG INSTITUTIONS) 、SDG 17(PARTNERSHIPS FOR THE GOALS). 16 Sustainable Development Goals (SDGs) are listed in total.

Sustainable Key Goals of **Academia and Industry-University Cooperation** Include : SDG 1(NO POVERTY) 、SDG 2(ZERO HUNGER) 、SDG 3(GOOD HEALTH AND WELL-BEING) 、SDG 4(QUALITY EDUCATION) 、SDG 8(DECENT WORK AND ECONOMIC GROWTH) 、SDG 9(INDUSTRY, INNOVATION AND INFRASTRUCTURE) 、SDG 11(SUSTAINABLE CITIES AND COMMUNITIES) 、SDG 17(PARTNERSHIPS FOR THE GOALS). 8 Sustainable Development Goals (SDGs) are listed in total.

Sustainable Key Goals of **Academic Research** Include : SDG 2(ZERO HUNGER) 、SDG 3(GOOD HEALTH AND WELL-BEING) 、SDG 4(QUALITY EDUCATION) 、SDG 6(CLEAN WATER AND SANITATION) 、SDG 7(AFFORDABLE AND CLEAN ENERGY) 、SDG 9(INDUSTRY, INNOVATION AND INFRASTRUCTURE) 、SDG 11(SUSTAINABLE CITIES AND COMMUNITIES) 、SDG 12(RESPONSIBLE CONSUMPTION AND PRODUCTION) 、SDG 13(CLIMATE ACTION). 9 Sustainable Development Goals (SDGs) are listed in total.

Moreover, following the “Five-aspects Strategy” of YunTech (namely as **Characterization, Academization, Industry-University Cooperation, Internationalization and Intellectualization**), we fulfill the university social responsibility (USR) and the spirit of sustainability in acquiring an internationally-recognized university featured by innovative education and industrial integration in line with international standards.

I. Short-term Target: Achieve the annual performance target of school affairs.

II. Medium-term Target: Gradually realize the vision of sustainability based on YunTech's Five-ization Strategy through the academization, industry-university cooperation, internationalization, intellectualization and characterization.

(1)Characterization and Student Enrollment: Strengthen our connection with feeder schools by digital learning platforms, and carry out course reform and adjustment for better enrollment performance, so as to integrate intelligent education services and improve educational reputation.

(2)Academicization: Satisfy “basic requirements” and “special demands” by resource allocation to improve academic research results.

(3)Industry-University Cooperation: Negotiate with each department on relevant rights and obligations when each college is responsible for integration or interdisciplinary cooperation. Case-sharing meetings for industry-university cooperation could be carried out and be put into courses to improve industry-university performance.

(4)Internationalization: Provide trainings of international enrollment, purchase more precision equipment for PhD program, encourage teachers to participate in or host joint forums, match the International Office with foreign sister schools, and set up the International Student Special Program to attract more students.

(5)Intellectualization: The information demand questionnaire shall be filled out by each department for the integration of academic resources (data-sharing) for all faculties and students.

III. Long-term Target: In accordance with the 2030 Agenda for Sustainable Development of United Nations and the “Five-aspects Strategy”, a college-focused university will be created. Conforming to all-round demands in academic research, university-industry cooperation, sustainable courses and education of society, environment and students, we will continue our efforts in global sustainable development.

List plans of sustainability education, academic research and industry-university cooperation in 2020 years.

★Total number of courses related sustainability and social practice = 73

符合 SDGs	Courses	課名(中英文)
SDG 1	1	文學與創新一創意實踐(Literature and Innovation - Industry Practice Topics)
SDG 2	5	永續綠生活(Sustainable Green Life)、自主學習－認識中草藥的過去、現在與未來(Self-Learning-Introduction of Chinese Herbs)、食品衛生概論(Introduction of Food Hygiene)、食品衛生與安全(Food Sanitation and Safety)、無人機應用導論(Introduction to Unmanned Aircraft System Applications)
SDG 3	4	全人健康(Wellness)、老人健康促進(Geriatric Health Promotion)、健康管理(Health Management)、職場安全與健康(Occupational Safety and Health)
SDG 4	4	心靈教育與美好生活(Heart-Mind Education and Good Life)、生命教育與圓滿生活(Life Education and Flourish Life)、性別教育(Gender Education)、家庭婚姻與親職教育(Family marriage and parenting education)
SDG 5	10	大數據的現在與未來(The present and future of big data)、文學與創新一創意思考(Literature and Innovation - Creative Thinking)、文學與創新一創意實踐(Literature and Innovation - Industry Practice Topics)、性別平權與暴力防治(Gender Equality And Violence Prevention)、性別教育(Gender Education)、性別與傳播科技(Gender and Communication Technology)、活出精彩人生(Live life at its best)、美麗人生心境界(From Inside of The Heart Viewing The Beauty of The Life)、樂齡照顧與服務(Care and service for the elderly)
SDG 6	1	綠色科技創新與創意設計(Innovative and Creative design for Green Technology)
SDG 7	2	能源發展與永續(Sustainable Development of Energy)、綠色科技創新與創意設計(Innovative and Creative design for Green Technology)
SDG 8	3	人工智慧對科技經濟社會與產業的挑戰(Artificial Intelligence Challenges Technology , Economic. Social and Industry)、自主學習－創意學經濟(Self-Learning-Creative Essentials of Economics)、自主學習－無所不在的經濟學(Self-Learning-

		Economics Everywhere)
SDG 9	3	工業安全與衛生(Industrial Safety and Hygiene)、工業配線實務(Industrial Wiring Practice)
SDG 10	17	文明衝突與世界局勢(The clash of civilizations and the world situation)、文學與創新－創意思考(Literature and Innovation - Creative Thinking)、文學與創新－經世散文(Literature and Innovation-Prose Devoted to Manage and Benefit The People)、文學與創新－創意實踐(Literature and Innovation - Industry Practice Topics)、全民國防教育軍事訓練（三）(All-out Defense Education Military (Ⅲ))、性別與傳播科技(Gender and Communication Technology)、法律與生活(Law and Life)、政治哲學與實踐(Political Philosophy and Practice)、活出精彩人生(Live life at its best)、個人資料與隱私之保護思潮(The Ideological Trend about the Protection of Personal Data and Privacy)、校園法律與倫理(Law and Ethic in the Campus)、資訊與網路科技(Information and Network Technology)、電腦犯罪與法律(Computer Crime and law)、樂齡照顧與服務(Care and service for the elderly)、憲政與人權(Constitutionalism and human rights)
SDG 11	27	人工智慧對科技經濟社會與產業的挑戰(Artificial Intelligence Challenges Technology , Economic. Social and Industry)、文化社會與產業發展(Culture, Society and Industry)、台灣社會變遷與發展(Taiwan social change and develop)、永續綠生活(Sustainable Green Life)、自我成長與社會實踐(Self Growth and Social Practice)、社會志願服務(Social Voluntary Service)、社會責任與產業倫理(Social Responsibility and Industrial Ethics)、社會造夢者(Social dreamer)、科技與社會(Technology and society)、能源發展與永續(Sustainable Development of Energy)、能源與社會(Energy and Society)、基因、環境與生活文化(Gene, Environment and Life Culture)、從社會學看歷史(Reading history through sociological eyes)、透視印度文化與社會(Introduction to Indian Cultural and Society)、創傷與社會(Trauma and Society)、越南社會與文化史(Social Cultural History of Vietnam)
SDG 12	1	綠色科技創新與創意設計(Innovative and Creative design for Green Technology)
SDG 14	1	台灣海洋文化史(Taiwan History of Ocean Civilization)
SDG 15	1	基因、環境與生活文化(Gene, Environment and Life Culture)
SDG 16	17	文明衝突與世界局勢(The clash of civilizations and the world situation)、文學與創新－創意思考(Literature and

		Innovation - Creative Thinking)、文學與創新－經世散文(Literature and Innovation-Prose Devoted to Manage and Benefit The People)、文學與創新－創意實踐(Literature and Innovation - Industry Practice Topics)、全民國防教育軍事訓練（三）(All-out Defense Education Military（Ⅲ）)、性別與傳播科技(Gender and Communication Technology)、法律與生活(Law and Life)、政治哲學與實踐(Political Philosophy and Practice)、活出精彩人生(Live life at its best)、個人資料與隱私之保護思潮(The Ideological Trend about the Protection of Personal Data and Privacy)、校園法律與倫理(Law and Ethic in the Campus)、資訊與網路科技(Information and Network Technology)、電腦犯罪與法律(Computer Crime and law)、樂齡照顧與服務(Care and service for the elderly)、憲政與人權(Constitutionalism and human rights)
SDG 17	5	全球視野與產業趨勢(Global Visions and Industrial Trends)、自主學習－國際人權法律與實務(Self-Learning-International Human Rights Law and Practice)、流行文化與國際關係(Popular Culture and International Relations)、當代國際議題(Current Important Issues in International Relations)

Sustainability Related Industry-University Cooperation

★2020 Total Number of Project= 13

符合 SDGs	Project	代表性計畫
SDG 1	2	大專院校農村實踐共創計畫-老屋新生-選手們的農村創生夢、斗南鎮地方創生規畫案。
SDG 2	4	重點高階研發人才培育實驗室技術創新計畫-智慧農業園區研發人才培育實驗室研究計畫、新一代農業菁英培育暨合作計畫(新進教師)：智慧化辨識青花菜病蟲害管理系統、坡地果樹智慧農業核心技術之研發與應用...等。
SDG 3	2	以大數據分析技術進行國際疾病分類碼 ICD-10 編碼系統及門診系統之設計與開發、因應大量傷患事故之災情資訊與醫療資源整合之研究-利用急診動力學分析方法評估緊急醫療調節中心與急救責任醫院之大量傷病患最大處置能量研究。

SDG 4	5	食農教育推廣計畫(學校組)、湖山水庫環境教育推動發展計畫、大專校院教學實踐研究計畫-開發基於教育人工智慧的適性學習支持系統協助學生自我調整學習之研究...等。
SDG 8	1	重點高階研發人才培育實驗室技術創新計畫-智慧農業園區研發人才培育實驗室研究計畫。
SDG 9	1	大專院校農村實踐共創計畫-老屋新生-選手們的農村創生夢。
SDG 11	3	高雄市政府再生能源宣導、大專院校農村實踐共創計畫-老屋新生-選手們的農村創生夢、以大數據分析技術進行國際疾病分類碼 ICD-10 編碼系統及門診系統之設計與開發。
SDG 17	1	新一代農業菁英培育暨合作計畫(新進教師)：智慧化辨識青花菜病蟲害管理系統。

Sustainability Related Academic Research

★2020 Total Number of Research =34

符合 SDGs	計畫數	代表學術發表
SDG 2	2	Comparative analysis of artificial intelligence models for accurate estimation of groundwater nitrate concentration.; Machine learning for prediction of energy in wheat production.
SDG 3	9	A stochastic numerical computing heuristic of SIR nonlinear model based on dengue fever.; Intelligent computing with Levenberg–Marquardt artificial neural networks for nonlinear system of COVID-19 epidemic model for future generation disease control.; Modeling spatial flood using novel ensemble artificial intelligence approaches in northern Iran.
SDG 4	1	Impacts of a dynamic grouping strategy on students' learning effectiveness and experience value in an item bank-based collaborative practice system.
SDG 6	3	Comparative analysis of artificial intelligence models for accurate estimation of groundwater nitrate concentration.; Derivation of

		optimized equations for estimation of dispersion coefficient in natural streams using hybridized ANN with PSO and CSO Algorithms.; Managing water quality in a river basin with uncertainty.
SDG 7	11	A lightweight genetic based algorithm for data security in wireless body area networks.; Aspect Ratio-Dependent Charge Carrier Dynamics in Matchstick-like Ag.; Co-pyrolysis behavior, engine performance characteristics, and thermodynamics of liquid fuels from mahua seeds and waste thermocol: A comprehensive study.
SDG 9	3	Adaptive nonsingular proportional–integral–derivative-type terminal sliding mode tracker based on rapid reaching law for nonlinear systems.; Calculating filament feed in the fused deposition modeling process to correctly print continuous fiber composites in curved paths.; Solution of optimal reactive power dispatch with FACTS devices: A survey.
SDG 11	8	A model for locating tall buildings through a visual analysis approach.; A novel environmental monitoring strategy for industrial safety and disaster prevention management applications.; Co-pyrolysis behavior, engine performance characteristics, and thermodynamics of liquid fuels from mahua seeds and waste thermocol: A comprehensive study.
SDG 12	2	A novel environmental monitoring strategy for industrial safety and disaster prevention management applications.; Co-pyrolysis behavior, engine performance characteristics, and thermodynamics of liquid fuels from mahua seeds and waste thermocol: A comprehensive study.
SDG 13	2	How parks provide thermal comfort perception in the metropolitan cores; a case study in Madrid Mediterranean climatic zone.; Managing water quality in a river basin with uncertainty.