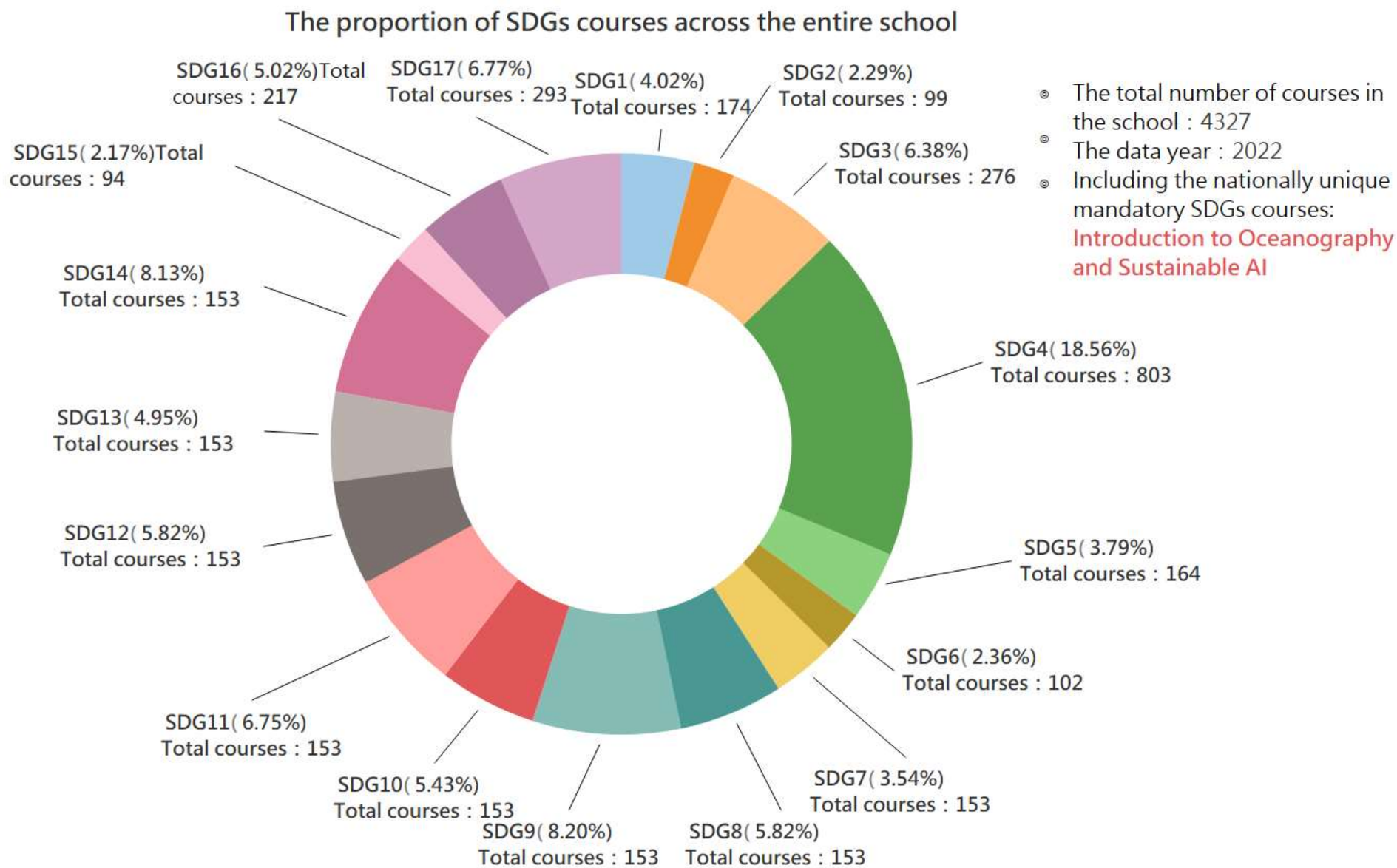
- The total number of courses in the school：4327
- The data year：2022
- Including the **nationally unique** mandatory SDGs courses: Introduction to Oceanography and Sustainable AI



Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M90012X9	1	A	海洋人文社會專題	Topics in Oceanic Humanities and Social Sciences	增進本院研究生之海洋人文素養，開拓其國際海洋視野，培育跨領域學習、研究海洋人文社會問題的知能與實作經驗，發展其多元專長，以因應當前社會環境與產業型態快速變遷，以及國家發展海洋事業之政策目標與世界潮流。	To enhance the quality of graduate students in marine humanities, to broaden their horizons in the international ocean, to cultivate their knowledge and practical experience in cross-disciplinary study and research of marine humanities and social issues, and to develop their diversified expertise to cope with the rapid changes in the current social environment and industrial patterns, as well as the national policy objectives and global trends in the development of the marine industry.	1	Required Course	人文社會科學院（碩） The College of Humanities and Social Sciences	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG14、SDG16
2022	Undergraduate	B9D01969	1	Y	英文(大一英文)	English	藉由輕鬆活潑的教學方式 幫助同學練習聽說讀寫 上課中會使用影片訓練同學聽力 營造出更實際的生活對話內容	While learners study a language, they are expected to be able to learn the most with the awareness of their learning autonomy and the willingness to express themselves actively in learning processes. Thus, based on that, this class will help students to improve skills necessary for better successful English communication, listening and speaking, through the use of English as the medium of instruction, the use of DVD / CD, and other classroom interactive activities. This will acclimate their ears to understanding spoken English easily, and oral practices will increase their speaking fluency. In order to master English as a tool of verbal communication, emphasis will also be included on developing native-like vocabulary (idioms), speech patterns, and pronunciation. In addition, there will be frequent classroom discussions.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG5
2022	Undergraduate	B9D023KN	2	A	英文聽力與閱讀 (進階英文-中級)	English Listening and Reading (Intermediate)	本課程針對學校畢業門檻TOEIC (多益)考試的閱讀及聽力能力培養，帶領同學講解Toeic 題庫、應考策略及觀看各類型主題的影片。同時，課堂上有時也會播放CNN/BBC互動影片。影片內容以商用英文及職場英文為主，除了有助於學生應付TOEIC (多益)考試外，對未來求職及職場應對也裨益良多。課堂上，會請考取多益高分同學傳授如何準備多益考試及分享考試實戰經驗。 凡是選修這堂課的同學，免費贈送數回針對2018年3月份新制多益題型的進口題庫及音檔。	This course focuses on the development of reading and listening skills for the TOEIC (Test of English as a Foreign Language) examination for school leavers. Students will be guided through the Toeic question bank, test-taking strategies and videos on various topics. At the same time, we also show CNN/BBC interactive videos in class. The content of the videos is mainly business English and workplace English, which not only helps students to prepare for the TOEIC exam, but also has a lot of benefits for future job searching and workplace preparation. In the class, students with high TOEIC scores will be invited to teach how to prepare for the TOEIC exam and share their practical experience. For students who take this class, they will receive several free rounds of imported questions and audio files for the new March 2018 MICS questions.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023KO	2	B	英文文法與習作 (進階英文-中級)	English Grammar and Exercises (Intermediate)	教學目標在於幫助學生英文寫作能順暢達意。句型結構分析不是這門課的重點，這門課著重在練習；透過句子組合練習，學生能有精確、簡潔且而流暢的文字表達能力。	The course aims to help students become aware of, and be able to use, a variety of ways to express their ideas in writing. In this course, the emphasis is placed on doing, rather than analyzing the grammatical structures under practice. Provided with practice combining sets of sentences, students are asked to use a variety of sentence combining and expanding techniques to produce more specific, concise and fluent sentences.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4
2022	Undergraduate	B9D023KN	2	B	英文聽力與閱讀 (進階英文-中級)	English Listening and Reading (Intermediate)	This video-based course is to activate students` interest in learning English, to cultivate students' habits of using English and to improve students' English listening, reading skills and online English learning habits.	This video-based course is to activate students` interest in learning English, to cultivate students' habits of using English and to improve students' English listening, reading skills and online English learning habits.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9D023L4	2	B	英文聽力與閱讀(進階英文-初級)	Listening and Reading (Elementary)	Course Description: There are 4 main principles on which the course is based: rich input, reading and listening strategies, language awareness and self-expression. The program provides a variety of practice and tasks that ensure all learners build reading and listening skills. Course Objectives: 1.To develop critical thinking and discussion skills. 2.To acquire deeper understanding of vocabulary and grammar. 3.To use successful reading and listening strategies. Required Texts: 1. World Class 1A(東華書局). 2. Handouts Course Requirements and Grading System: Class attendance: Class attendance will be monitored and students who have more than 2 unexcused absences will be withdrawn from the class. Presentation/Role play: Presentation requires close knowledge of chosen text. 10 persons a group. 50 minutes for each presentation. Attendance 25% Participation 25% Report and presentation 25% Mid-term Exam + Final Exam (open book exam) 25% Total 100% *The rate of grading mig	Course Description: There are 4 main principles on which the course is based: rich input, reading and listening strategies, language awareness and self-expression. The program provides a variety of practice and tasks that ensure all learners build reading and listening skills. Course Objectives: 1.To develop critical thinking and discussion skills. 2.To acquire deeper understanding of vocabulary and grammar. 3.To use successful reading and listening strategies. Required Texts: 1. World Class 1A(東華書局). 2. Handouts Course Requirements and Grading System: Class attendance: Class attendance will be monitored and students who have more than 2 unexcused absences will be withdrawn from the class. Presentation/Role play: Presentation requires close knowledge of chosen text. 10 persons a group. 50 minutes for each presentation. Attendance 25% Participation 25% Report and presentation 25% Mid-term Exam + Final Exam (open book exam) 25% Total 100% *The rate of grading mig	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG5、SDG10、SDG17
2022	Undergraduate	B9D023L5	2	A	會議英語 (進階英文-中級)	English for Meetings (Intermediate)	會議英語是所有中高階主管必須具備的能力，是為培養下一代人才的重要學習課程。本課程以真人實境的影片，來增進學生的英文學習; 同時，也會播放TOEIC (多益)聽力題庫及發放多益閱讀題庫，讓學生將學到的會議英文，應用在TOEIC (多益)考試的準備上。凡是選修這堂課的同學，免費贈送數回針對2018年3月份新制多益題型的進口題庫及音檔。	English for meetings is a must for all middle and senior executives, and is an important learning programme for nurturing the next generation of talents. This course uses real-life videos to enhance students' English learning; at the same time, TOEIC listening questions will be shown and TOEIC reading questions will be distributed so that students can apply what they have learnt in preparing for the TOEIC examination. Students who take this class will receive several free copies of the March 2018 TOEIC question bank and audio files.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01969	1	B	英文(大一英文)	English	Aiming to enhance students' English proficiency, the course is designed to cover the real life issues such as travel, business, athletes, culture and technology by using authentic materials and media. The content of each unit will be dedicated to the practice of four skills through lecture, group discussions, pair work, role-playing, and presentations, etc. with a view to developing students' critical thinking and expressing their perspectives in	Aiming to enhance students' English proficiency, the course is designed to cover the real life issues such as travel, business, athletes, culture and technology by using authentic materials and media. The content of each unit will be dedicated to the practice of four skills through lecture, group discussions, pair work, role-playing, and presentations, etc. with a view to developing students' critical thinking and expressing their perspectives in English.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG3、SDG4、SDG10、SDG13、SDG15
2022	Undergraduate	B9D01969	1	Q	英文(大一英文)	English	提高學生英文能力	Developing English abilities of students	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG5、SDG10、SDG12
2022	Undergraduate	B9D01969	1	X	英文(大一英文)	English	This course aims to help students build up their vocabulary bank and improve their listening and reading skills. Students are also expected to have a broader world-view after taking this course.	This course aims to help students build up their vocabulary bank and improve their listening and reading skills. Students are also expected to have a broader world-view after taking this course.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG5、SDG12
2022	Undergraduate	B9D023KO	2	A	英文文法與習作 (進階英文-中級)	English Grammar and Exercises (Intermediate)	教學目標在於幫助學生英文寫作能順暢達意。句型結構分析不是這門課的重點，這門課著重在練習；透過句子組合練習，學生能有精確、簡潔且而流暢的文字表達能力。	The course aims to help students become aware of, and be able to use, a variety of ways to express their ideas in writing. In this course, the emphasis is placed on doing, rather than analyzing the grammatical structures under practice. Provided with practice combining sets of sentences, students are asked to use a variety of sentence combining and expanding techniques to produce more specific, concise and fluent sentences.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9D03TVQ	3	B	英文精進	Essential English	本課程針對學校畢業門檻TOEIC (多益)考試的閱讀及聽力能力培養，帶領同學講解Toeic 題庫、應考策略及觀看各類型主題的影片。同時，課堂上有時也會播放CNN/BBC互動影片。影片內容以商用英文及職場英文為主，除了有助於學生應付TOEIC (多益)考試外，對未來求職及職場應對也裨益良多。課堂上，會請考取多益高分同學傳授如何準備多益考試及分享考試實戰經驗。	This course focuses on the development of reading and listening skills for the TOEIC (Test of English as a Foreign Language) examination for school leavers. Students will be guided through the Toeic question bank, test-taking strategies and videos on various topics. At the same time, we also show CNN/BBC interactive videos in class. The content of the videos is mainly business English and workplace English, which not only helps students to prepare for the TOEIC exam, but also has a lot of benefits for future job searching and workplace preparation. In the classroom, students with high TOEIC scores will be invited to teach how to prepare for the TOEIC exam and share their practical experience in the exam.	0	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023L4	2	A	英文聽力與閱讀(進階英文-初級)	Listening and Reading (Elementary)	see English version	Course Description: There are 4 main principles on which the course is based: rich input, reading and listening strategies, language awareness and self-expression. The program provides a variety of practice and tasks that ensure all learners build conversational skills alongside listening skills. Course Objectives: 1.To develop critical thinking and discussion skills. 2.To acquire deeper understanding of vocabulary and grammar. 3.To use successful reading and listening strategies. 4.To build conversation skills alongside listening skills.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG5、SDG10、SDG17
2022	Undergraduate	B9D01968	1	6	英文(大一英文)	English	請參考下列英文版	The goal of Freshman English is to familiarize you with the fundamental skills needed to help you become an efficient learner in reading and vocabulary (this semester) and speaking and listening (next semester). In addition to the course handouts, valuable resources (both on- and off-line) will be introduced and various learning tasks have been prepared to encourage you to build up an active learning attitude for pursuing ongoing advancement of your English ability in an independent and effective manner.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16
2022	Undergraduate	B9D01968	1	9	英文(大一英文)	English	請參考下列英文版	The goal of Freshman English is to familiarize you with the fundamental skills needed to help you become an efficient learner in reading and vocabulary (this semester) and speaking and listening (next semester). In addition to the course handouts, valuable resources (both on- and off-line) will be introduced and various learning tasks have been prepared to encourage you to build up an active learning attitude for pursuing ongoing advancement of your English ability in an independent and effective manner.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16
2022	Undergraduate	B9D01968	1	E	英文(大一英文)	English	The purpose of this course is to improve students'' abilities in vocabulary, listening and reading.	The purpose of this course is to improve students''''''' abilities in vocabulary, listening and reading.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01968	1	Q	英文(大一英文)	English	Stress reciprocal input with the ultimate goal of improved fluency, utilizing diverse strategies to teach interpersonal communicative skills	Stress reciprocal input with the ultimate goal of improved fluency, utilizing diverse strategies to teach interpersonal communicative skills	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG3、SDG4、SDG5、SDG8、SDG10、SDG12、SDG13、SDG15、SDG17
2022	Undergraduate	B9D01968	1	X	英文(大一英文)	English	Stress reciprocal input with the ultimate goal of improved fluency, utilizing diverse strategies to teach interpersonal communicative skills	Stress reciprocal input with the ultimate goal of improved fluency, utilizing diverse strategies to teach interpersonal communicative skills	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG3、SDG4、SDG5、SDG13
2022	Undergraduate	B9D023L4	2	A	英文聽力與閱讀(進階英文-初級)	Listening and Reading (Elementary)	N/A	Course Objectives: 1.To develop critical thinking and discussion skills. 2.To acquire deeper understanding of vocabulary and grammar. 3.To use successful reading and listening strategies. Attendance 25% Participation	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG5、SDG10、SDG17
2022	Undergraduate	B9D024LA	2	A	英美短篇小說(進階英文-中級)	British and American Short Stories (Intermediate)	帶領學生一窺英美短篇小說之美,如何欣賞文學及分析,同時訓練其閱讀能力與刺激思考能力	Introducing students to the appreciation of English literature, training their reading comprehension, and inspiring their thinking competence.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG4、SDG5
2022	Undergraduate	B9D01968	1	4	英文(大一英文)	English	This course focuses on language abilities that are essential in real life. You will develop effective strategies to understand others well with the various listening and reading materials in class. You will also use the speaking	This course focuses on language abilities that are essential in real life. You will develop effective strategies to understand others well with the various listening and reading materials in class. You will also use the speaking skills to talk in groups,	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG4、SDG11

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9D01968	1	N	英文(大一英文)	English	This course will develop students" listening and reading skills and help them prepare the TOEIC test. Students will also be asked to practice speaking skills in a group project.	This course will develop students" listening and reading skills and help them prepare the TOEIC test. Students will also be asked to practice speaking skills in a group project.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023RC	2	B	新聞英文（進階英文-中級）	Journalistic English (Intermediate)	This course aims to train students' language skills about news English. Students will learn news vocabulary and styles of news English, be able to read, understand, and talk about news in English, and also improve their comprehension skills when reading English newspapers, articles, and magazines and listening to English news.	This course aims to train students' language skills about news English. Students will learn news vocabulary and styles of news English, be able to read, understand, and talk about news in English, and also improve their comprehension skills when reading English newspapers, articles, and magazines and listening to English news.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01968	1	8	英文(大一英文)	English	本課程將側重於提高學生的英語閱讀和聽力技能。此外，本課程將幫助學生提高閱讀和聽力的靈活性，以及提高對英語文本理解的策略。本課程也會著重在語法和詞彙知識。	This course will focus on improving students' English reading and listening skills. Moreover, this course will help students develop flexibility in reading and listening rates as well as strategies for improving comprehension of English texts. Grammatical and vocabulary knowledge will also be addressed in this course.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023KZ	2	B	看電影學英文(進階英文-中級)	Learning English and Culture through Movies (Intermediate)	Students will learn authentic English language and culture from the movies selected by the instructor and develop self-study techniques of using movies to enhance their English abilities. Based on the themes of the movies, the instructor designs tasks to increase students' English vocabulary, improve their English listening/speaking skills, and raise their awareness of English cultures. More importantly, through the classroom tasks and after-class assignments, students are expected to become familiar with the techniques of using movies to boost their English	Students will learn authentic English language and culture from the movies selected by the instructor and develop self-study techniques of using movies to enhance their English abilities. Based on the themes of the movies, the instructor designs tasks to increase students' English vocabulary, improve their English listening/speaking skills, and raise their awareness of English cultures. More importantly, through the classroom tasks and after-class assignments, students are expected to become familiar with the techniques of using movies to boost their English proficiency.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D03TVQ	3	B	英文精進	Essential English	本課程將專注於提高學生的英語閱讀和聽力技能，以及發展他們的語法和詞彙知識。此外，本課程將提供學生使用英語的情境。本課程將著重在實用和學術目的的英語。	This course will focus on improving students' English reading and listening skills as well as developing their grammatical and vocabulary knowledge. Moreover, this course will provide scenarios for students to use English. English for practical and academic purposes will be addressed in this course.	0	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01968	1	L	英文(大一英文)	English	請參考英文版如下	This course is to establish students" fundamental skills and help them become efficient learners in reading and listening. They are also encouraged to build up an active learning attitude for pursuing ongoing advancement of English ability in an independent and effective manner.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG4、SDG5
2022	Undergraduate	B9D01968	1	W	英文(大一英文)	English	This course focuses on language abilities that are essential in real life. You will develop effective strategies to understand others well with the various listening and reading materials in class. You will also use the speaking skills to talk in groups, to share with the class, and to present. Your learning will be based on, but not limited to, the required textbook. With the lecture and active participation, you will learn the most relevant vocabulary, grammar concepts and necessary skills for everyday	This course focuses on language abilities that are essential in real life. You will develop effective strategies to understand others well with the various listening and reading materials in class. You will also use the speaking skills to talk in groups, to share with the class, and to present. Your learning will be based on, but not limited to, the required textbook. With the lecture and active participation, you will learn the most relevant vocabulary, grammar concepts and necessary skills for everyday interaction.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG14
2022	Undergraduate	B9D023L5	2	A	會議英語 (進階英文-中級)	English for Meetings (Intermediate)	會議英語是所有中高階主管必須具備的能力，是為培養下一代人才的重要學習課程。本課程以真人實境的影片，來增進學生的英文學習; 同時，也會播放TOEIC (多益)聽力題庫及發放多益閱讀題庫，讓學生將學到的會議英文，應用在TOEIC (多益)考試的準備上。凡是選修這堂課的同學，免費贈送數回針對2018年3月份新制多益題型的進口題庫及音檔。	English for meetings is a must for all middle and senior executives, and is an important learning programme for nurturing the next generation of talents. This course uses real-life videos to enhance students' English learning; at the same time, TOEIC listening questions will be shown and TOEIC reading questions will be distributed so that students can apply what they have learnt in preparing for the TOEIC examination. Students who take this class will receive several free copies of the March 2018 TOEIC question bank and audio files.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01968	1	Z	英文(大一英文)	English	本課程將側重於提高學生的英語閱讀和聽力技能。此外，本課程將幫助學生提高閱讀和聽力的靈活性，以及提高對英語文本理解的策略。本課程也會著重在語法和詞彙知識。	This course will focus on improving students' English reading and listening skills. Moreover, this course will help students develop flexibility in reading and listening rates as well as strategies for improving comprehension of English texts. Grammatical and vocabulary knowledge will also be addressed in this course.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023KO	2	A	英文文法與習作 (進階英文-中級)	English Grammar and Exercises (Intermediate)	教學目標在於幫助學生英文寫作能順暢達意。句型結構分析不是這門課的重點，這門課著重在練習；透過句子組合練習，學生能有精確、簡潔且而流暢的文字表達能力。	The course aims to help students become aware of, and be able to use, a variety of ways to express their ideas in writing. In this course, the emphasis is placed on doing, rather than analyzing the grammatical structures under practice. Provided with practice combining sets of sentences, students are asked to use a variety of sentence combining and expanding techniques to produce more specific, concise and fluent sentences.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9D023KZ	2	A	看電影學英文(進階英文-中級)	Learning English and Culture through Movies (Intermediate)	Students will learn authentic English language and culture from the movies selected by the instructor and develop self-study techniques of using movies to enhance their English abilities. Based on the themes of the movies, the instructor designs tasks to increase students' English vocabulary, improve their English listening/speaking skills, and raise their awareness of English cultures. More importantly, through the classroom tasks and after-class assignments, students are expected to become familiar with the techniques of using movies to boost their English	Students will learn authentic English language and culture from the movies selected by the instructor and develop self-study techniques of using movies to enhance their English abilities. Based on the themes of the movies, the instructor designs tasks to increase students' English vocabulary, improve their English listening/speaking skills, and raise their awareness of English cultures. More importantly, through the classroom tasks and after-class assignments, students are expected to become familiar with the techniques of using movies to boost their English proficiency.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01968	1	C	英文(大一英文)	English	本課程將側重於提高學生的英語閱讀和聽力技能。此外，本課程將幫助學生提高閱讀和聽力的靈活性，以及提高對英語文本理解的策略。本課程也會著重在語法和詞彙知識。	This course will focus on improving students' English reading and listening skills. Moreover, this course will help students develop flexibility in reading and listening rates as well as strategies for improving comprehension of English texts. Grammatical and vocabulary knowledge will also be addressed in this course.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D01968	1	D	英文(大一英文)	English	This course is to cultivate students' English communication ability and to improve students' English listening and reading skills.	This course is to cultivate students' English communication ability and to improve students' English listening and reading skills.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG2、SDG14
2022	Undergraduate	B9D01968	1	H	英文(大一英文)	English	教學目標在於幫助學生在英文的寫和閱讀方面能順暢，特別是大專程度的文章閱讀能力。	The course aims to help students with pre-intermediate proficiency in English acquire the ability to read college-level materials fluently. This class presents to students major grammatical concepts of the English language and reviews the most basic vocabulary (affixes and roots, words, phrases and collocations).	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4
2022	Undergraduate	B9D023KN	2	B	英文聽力與閱讀 (進階英文-中級)	English Listening and Reading (Intermediate)	本課程針對學校畢業門檻TOEIC (多益)考試的閱讀及聽力能力培養，帶領同學講解Toeic 題庫、應考策略及觀看各類型主題的影片。同時，課堂上有時也會播放CNN/BBC互動影片。影片內容以商用英文及職場英文為主，除了有助於學生應付TOEIC (多益)考試外，對未來求職及職場應對也裨益良多。課堂上，會請考取多益高分同學傳授如何準備多益考試及分享考試實戰經驗。 凡是選修這堂課的同學，免費贈送數回針對2018年3月份新制多益題型的進口題庫及音檔。	This course focuses on the development of reading and listening skills for the TOEIC (Test of English as a Foreign Language) examination for school leavers. Students will be guided through the Toeic question bank, test-taking strategies and videos on various topics. At the same time, we also show CNN/BBC interactive videos in class. The content of the videos is mainly business English and workplace English, which not only helps students to prepare for the TOEIC exam, but also has a lot of benefits for future job searching and workplace preparation. In the class, students with high TOEIC scores will be invited to share their experience in preparing for the TOEIC exam. For students who take this class, they will receive several free copies of the imported question bank and audio files for the new March 2018 MICS questions.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023L2	2	B	觀光英語 (進階英文-中級)	Tourism English (Intermediate)	加強與提升旅遊英文的聽說讀寫和字彙能力	Strengthen and enhance tourism English abilities of listening, speaking, reading, writing and vocabulary.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG4、SDG10、SDG11、SDG12、SDG17
2022	Undergraduate	B9D023L4	2	B	英文聽力與閱讀(進階英文-初級)	Listening and Reading (Elementary)	N/A	Course Objectives: 1.To develop critical thinking and discussion skills. 2.To acquire deeper understanding of vocabulary and grammar. 3.To use successful reading and listening strategies. Attendance 25% Participation	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG5、SDG10、SDG17
2022	Undergraduate	B9D01968	1	1	英文(大一英文)	English	教學目標在於幫助學生在英文的寫和閱讀方面能順暢，特別是大專程度的文章閱讀能力。	The course aims to help students with pre-intermediate proficiency in English acquire the ability to read college-level materials fluently. This class presents to students major grammatical concepts of the English language and reviews the most basic vocabulary (affixes and roots, words, phrases and collocations).	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4
2022	Undergraduate	B9D023KO	2	B	英文文法與習作 (進階英文-中級)	English Grammar and Exercises (Intermediate)	教學目標在於幫助學生英文寫作能順暢達意。句型結構分析不是這門課的重點，這門課著重在練習；透過句子組合練習，學生能有精確、簡潔且而流暢的文字表達能力。	The course aims to help students become aware of, and be able to use, a variety of ways to express their ideas in writing. In this course, the emphasis is placed on doing, rather than analyzing the grammatical structures under practice. Provided with practice combining sets of sentences, students are asked to use a variety of sentence combining and expanding techniques to produce more specific, concise and fluent sentences.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4
2022	Undergraduate	B9D01968	1	A	英文(大一英文)	English	請參考英文版如下	This course is to establish students" fundamental skills and help them become efficient learners in reading and listening. They are also encouraged to build up an active learning attitude for pursuing ongoing advancement of English ability in an independent and effective manner.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG4、SDG5

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9D01968	1	M	英文(大一英文)	English	教學目標在於幫助學生在英文的寫和閱讀方面能順暢，特別是大專程度的文章閱讀能力。	The course aims to help students with pre-intermediate proficiency in English acquire the ability to read college-level materials fluently. This class presents to students major grammatical concepts of the English language and reviews the most basic vocabulary (affixes and roots, words, phrases and collocations).	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG4
2022	Undergraduate	B9D01968	1	S	英文(大一英文)	English	Aiming to enhance students' English proficiency, the course is designed to cover the real life issues such as travel, business, athletes, culture and technology by using authentic materials and media. The content of each unit will be dedicated to the practice of four skills through lecture, group discussions, pair work, role-playing, and presentations, etc. with a view to developing students' critical thinking and expressing their perspectives in	Aiming to enhance students' English proficiency, the course is designed to cover the real life issues such as travel, business, athletes, culture and technology by using authentic materials and media. The content of each unit will be dedicated to the practice of four skills through lecture, group discussions, pair work, role-playing, and presentations, etc. with a view to developing students' critical thinking and expressing their perspectives in English.	2	Required Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4、SDG11、SDG14、SDG16、SDG17
2022	Undergraduate	B9D023KN	2	A	英文聽力與閱讀 (進階英文-中級)	English Listening and Reading (Intermediate)	本課程針對學校畢業門檻TOEIC (多益)考試的閱讀及聽力能力培養，帶領同學講解Toeic 題庫、應考策略及觀看各類型主題的影片。同時，課堂上有時也會播放CNN/BBC互動影片。影片內容以商用英文及職場英文為主，除了有助於學生應付TOEIC (多益)考試外，對未來求職及職場應對也裨益良多。課堂上，會請考取多益高分同學傳授如何準備多益考試及分享考試實戰經驗。 凡是選修這堂課的同學，免費贈送數回針對2018年3月份新制多益題型的進口題庫及音檔。	This course focuses on the development of reading and listening skills for the TOEIC (Test of English as a Foreign Language) examination for school leavers. Students will be guided through the Toeic question bank, test-taking strategies and videos on various topics. At the same time, we also show CNN/BBC interactive videos in class. The content of the videos is mainly business English and workplace English, which not only helps students to prepare for the TOEIC exam, but also has a lot of benefits for future job searching and workplace preparation. In the class, students with high TOEIC scores will be invited to share their experience in preparing for the TOEIC exam. For students who take this class, they will receive several free copies of the imported question bank and audio files for the new March 2018 MICS questions.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG4
2022	Undergraduate	B9D023L0	2	B	職場英語 (進階英文-中級)	Workplace English (Intermediate)	本課程介紹並引導學生能應用於職場上各類商務情境的溝通技巧，目標是增進學生在職場上的英文溝通能力、溝通技巧的培養及廣大知識的取得，讓學生在職場生涯能獲得成功勝利。本課程的最終目標是幫助學生能更順利及更有自信地使用職場語言，增加職場成功的遠景。	This course is designed to give students the knowledge and confidence necessary to handle daily business affairs in their future workplace. The course will cover many real-life business situations that professionals would encounter. These every-day situations include not only social interactions but also practical transactions. After course completion, students will have developed sufficient vocabulary and listening comprehension skills to write and speak English effectively in key commercial communication areas.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG3、SDG4、SDG5、SDG8、SDG12
2022	Undergraduate	B9D023L2	2	A	觀光英語 (進階英文-中級)	Tourism English (Intermediate)	Tourism English is a course for all university students who will be required, in their professional life, to travel internationally and interact with speakers of English; especially, for those who may choose to work in the tourism industry. The course will cover a series of real-life situations that professionals would encounter while traveling for their jobs. These every-day situations include not only social interactions but the practical transactions as well that all international travelers have to deal with while making their way in a global economy.	Tourism English is a course for all university students who will be required, in their professional life, to travel internationally and interact with speakers of English; especially, for those who may choose to work in the tourism industry. The course will cover a series of real-life situations that professionals would encounter while traveling for their jobs. These every-day situations include not only social interactions but the practical transactions as well that all international travelers have to deal with while making their way in a global economy.	2	Elective Course	大學部英語課程(原外語中心) Institute of Applied English	SDG1、SDG2、SDG8、SDG9、SDG14
2022	Undergraduate	B940192A	1	A	流體力學	Fluid Mechanics	本課程首先使學生了解流體的基本性質及其相互間的作用力。其次藉由基本數學模式的推導，建立流體力學的分析方法，訓練學生實際解決工程上遇到的流體力學問題。最後簡介輪機機械上流體力學的應用。 此課程符合STCW 公約表A-III/1 有關輪機工程操作級能力之強制要求的知識、瞭解及熟練(This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/1 of STCW for the Competence Marine Engineering at the	First, this course is to educate students to understand the basic properties of fluid and acting force between them each other. Second, found the analysis method of fluid mechanics by the basic mathematics model derivation and train students to solve engineering problems. Finally, introduce the application of fluid mechanics in the turbo-machines.	3	Summer Course	大學暑修班	SDG6、SDG7、SDG10

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2022	Undergraduate	B9401KA1	1	A	船舶穩度	Ship Hydrostatics and Stability	本課程係依照國際海事組織(IMO) Model Course 7.03-2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship．2.1.2 Safe Handling, Stowage and Securing of Cargoes．3.2.1 Ship Stability．3.2.2 Ship Construction以及Physical Science之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關船舶操作及船上人員管理之操作級能力所需之知識及技術。	This course follows the International Maritime Organisation (IMO) Model Course 7.03-2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship, 2.1.2 Safe Handling, Stowage and Securing of Cargoes, 3.2.1 Ship Stability, 3.2.2 Ship Construction and Physical Science, taking into account the transfer of knowledge or skills necessary to enable the student to acquire the necessary knowledge or skills to meet the requirements of the Seafarers' Training, Certification and Duty of Manners Act 1978. Students are taught the knowledge and skills required to achieve operational level competence in ship operations and shipboard personnel management in accordance with the competency standards for Master Mariners set out in the 2010 Amendment to the International Convention on Standards of Training, Certification and Competency for Seafarers 1978 (STCW).	2	Summer Course	大學暑修班	SDG4、SDG8、SDG16、SDG17
2022	Undergraduate	B9400TVQ	1	A	英文精進	Essential English	The main objective of this course is to improve students' reading skills and comprehension. Through a selection of well-written articles, the students will be asked to practice various reading skills such as thematic identification and analyses of written materials given. They will also have the opportunity of honing their writing skills.	The main objective of this course is to improve students' reading skills and comprehension. Through a selection of well-written articles, the students will be asked to practice various reading skills such as thematic identification and analyses of written materials given. They will also have the opportunity of honing their writing skills.	0	Summer Course	大學暑修班	SDG3、SDG4、SDG5、SDG8、SDG12
2022	Undergraduate	B9411M97	1	A	微積分	Calculus	培訓學生認識及瞭解「微積分」之基本原理，建立歸納比較之能力且幫助加深觀念，再由解題技巧過程來釐清觀念。本課程主要講授基本微積分理論與解析方法，以應用於電子、通訊、控制、計算機...等相關課程，而建立適切應用分析與設計能力。	Train students to recognize and understand the basic principles of "calculus", establish the ability of induction and comparison and help to deepen the concept, and then clarify the concept through the process of problem-solving skills. This course mainly teaches basic calculus theory and analytical methods, which can be applied to related courses such as electronics, communication, control, computer, etc., and establish appropriate application analysis and design capabilities.	3	Summer Course	大學暑修班	SDG4、SDG17
2022	Undergraduate	B9401L6A	1	A	普通物理	General Physics	教導學生熟悉物理之基本原理，包含牛頓力學，圓周運動，能量與動量，流體，彈性與振盪，波動，熱力學以及電磁學之基礎觀念，奠定往後進階學習與研究之根基。	The aims of this course are to learn the basic theories of physics. This course includes fundamental concepts about the Newton's mechanics, circular motion, energy and momentum, fluids, elasticity and oscillations, waves, thermodynamics and electromagnetics. It is expected the learning will build up the excellent basis for advanced studies.	3	Summer Course	大學暑修班	SDG1、SDG4、SDG6、SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15、SDG17
2022	Undergraduate	B9400TVQ	1	A	英文精進	Essential English	藉由輕鬆活潑的教學方式 幫助同學練習聽力與閱讀 上課中會使用影片訓練同學聽力 營造出更實際的生活對話內容 也會有英文俚語的介紹 幫助同學說出更道地的英文	While learners study a language, they are expected to be able to learn the most with the awareness of their learning autonomy and the willingness to express themselves actively in learning processes. Thus, based on that, this class will help students to improve skills necessary for better successful English communication, listening and reading, through the use of English as the medium of instruction, the use of DVD / CD, and other classroom interactive activities. This will acclimate their ears to understanding spoken English easily, and oral practices will increase their speaking fluency. In order to master English as a tool of verbal communication, emphasis will also be included on developing native-like vocabulary (idioms), speech patterns, and pronunciation.	0	Summer Course	大學暑修班	SDG3、SDG4、SDG5、SDG8、SDG12
2022	Undergraduate	B33022IF	2	A	養殖學實驗(二)	Aquaculture Lab. (II)	配合水產養殖學理培養學者現場養殖操作能力,俾於現場應用得心應手,不至於眼高手低.	In conjunction with aquaculture science, students will be able to develop the ability to perform aquaculture operations in the field, so that they will be able to apply it in the field and will not become incompetent in the field.	1	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B33031O9	3	A	水生動物生殖操作實驗	Reproductive manipulation in the aquatic animal	魚類的性別容易受到外源性因子的調控，性別的不同會造成個體在體色、外觀與生長速率的不同。因此"性別的控制"在魚類的養殖上具有高度的價值。本課程將結合實驗設計與實作，期能使學生了解生物技術在性別控制上的應用。	Control of sexes is critically important for the management of fish stock. Sex steroids are widely used for controlling the sex of fish in the aquaculture. This laboratory work is used in conjunction with textbook of concept of reproduction manipulation lecture. In addition to providing hands-on experience in applying reproductive concepts. Students will gain experience of basic skills in reproductive manipulation techniques.	1	Elective Course	水產養殖學系 Department of Aquaculture	SDG2、SDG12、SDG14
2022	Undergraduate	B330419J	4	A	養殖場實務管理	Management of Practical Culture	為培養和強化水產養殖系學生對水產生物的了解與認知，同時為訓練學生具理論與實務病種之學習態度與觀念，特期望建立完整而完善的學生"養殖場實務管理"制度，以期能達到教育和訓練學生通盤且全方位的水產養殖專業人才。	In order to cultivate and strengthen the aquaculture students' understanding and awareness of aquatic organisms, as well as to train students with theoretical and practical learning attitudes and concepts, we hope to establish a complete and perfect system of "practical management of aquaculture farms" for students, in order to educate and train students to be comprehensive and all-rounded aquaculture professionals.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17

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2022	Undergraduate	B33043S3	4	A	水產養殖產業實習	Industrial Training	與企業接軌	aquaculture industrial prctice	6	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B33031O8	3	A	水生動物生殖操作概論	The concept of reproductive manipulation in the aquatic animal	多數魚類的性別是經由配子攜帶的特定染色體片段所決定但性別決定和性別分化的過程卻是在孵化後的階段所決定。因此魚類的性別容易經由額外的性類固醇操作所影響。所以我們在這裡將探討如何利用人為操作來影響魚類的性別和生殖發育及其原理。	Many fish species are genetic sex determination and sexes is determined at fertilization but phynotypic sex observed in later developmental stage during fry growth period. Therefore, the treatment of sexually undifferentiated fry by administration of sex steroids has been shown to work well in a wide range of fish species. Thus, in this class, we review the main methods used to control sex determination and reproduction in fish.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG2、SDG12、SDG14
2022	Undergraduate	B3302472	2	A	生態學	Ecology	生態學是門基礎科學，目的為讓各種領域之學生，學習與認識生態學的基本原理，瞭解生命體與環境互動之關係。本課程利用系統化的描述方式，介紹生態學中的各項內涵、原理及實驗方法等，再佐以目前全球最熱門的氣候變遷之議題，透過一系列生態實例，讓學生瞭解地球環境改變以及未來之因應策略，以期讓學生瞭解生態學之重要性，並利用生態學原理，保護現有生態資源，達到生態系資源的永續利用。	Ecology is a basic science. The objective is to allow students in various fields to learn and know the basic principles of ecology, understand interactive relation between living organisms and ecological environment. This course uses systematic description to introduce a variety of ecological connotation, principles and experimental methods, supplemented with the topical subject of "global climate change". Through a series of ecological examples, this course allows students to understand the changes in the earth environment and coping strategies in the future, thus achieving sustainable use of ecosystem resources.	3	Required Course	水產養殖學系 Department of Aquaculture	SDG4、SDG6、SDG7、SDG13、SDG14、SDG15
2022	Undergraduate	B33024B3	2	A	水生幼生關鍵開口餌料生物	Key live feeds for first feeding of aquatic larvae	依據國際間水生動物繁養殖研究潮流及產業脈動，此課程的教學目標為介紹水生動物幼苗初期關鍵的開口餌料生物的生物學及水產養殖技術之最新發展，使學生具有投入水生動物繁養殖及餌料生物開發、培養的能力，配合實作練習使同學探討不同餌料生物對於水生幼苗餵食效果的影響，同時訓練同學們在水生育苗實驗操作及數據收集的能力，未來對於相關產業及研究領域能有所貢獻。	Based on the international research and industry trends in larviculture of aquatic organisms, this course introduces the biological features, aquaculture technologies of various key live feeds for aquatic first feeding. The training is designed to enhance the student's capacity to develop aquaculture technology of using live feed for aquatic larviculture. Practical trainings are provided to students to investigate the effects of different live feeds to aquatic larvae, which enhances student's research and manipulation abilities in aquatic larviculture and allow them to contributes to aquaculture industry and research activities.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B3302291	2	A	水產無脊椎動物學	Aquatic Invertebrate	為培養學生對水產無脊椎動物的認知，教學內容介紹了水產無脊椎動物的生理學、內分泌、免疫及水產疾病防治，並以養殖現場實例加深學生的印象，期望能達到學生對水產生物的通盤了解。	In order to cultivate students' knowledge of aquatic invertebrates, the teaching content introduces the physiology of aquatic invertebrates, endocrinology, immunity and aquatic disease prevention and treatment, and uses real-life examples of aquaculture to deepen students' impression, with the hope of achieving a comprehensive understanding of aquatic organisms.	2	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B3303J51	3	A	細胞生物學	Cell Biology	本細胞生物學課程使用Becker's World of the Cell 9th edition (2018)為主要教材，以Molecular Cell Biology 8th edition (2016)為輔助教材，以期讓修課同學瞭解細胞生物學的重要概念及相關研究之實驗基礎。	The object of this course is to make students rapidly advancing understanding of key concepts and experimental foundation of related research in cell biology by using Becker's World of the Cell 9th edition (2018) as the textbook. Molecular Cell Biology 8th edition (2016) are used as references.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG3、SDG4、SDG8、SDG9
2022	Undergraduate	B3302312	2	A	水質學實驗	Analysis of Water Quality Lab.	水質對於水產養殖之重要性	The Importance of Water Quality in Aquaculture	1	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG3、SDG4、SDG6、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B33041L6	4	A	經濟水生植物栽培學	Cultivation of Economic Seaweeds and Water Plants	本課程主要是針對具經濟價值之海洋藻類及淡水水生植物，提供養殖與栽培的基礎。二十一世紀是生物科技的世紀，海藻與水生植物的相關生技研究正蓬勃發展，而台灣具有豐富的海藻與水生植物資源，隨著海藻養殖技術的發展與水生植物市場需求，本課程介紹經濟水生植物的利用現況，水生植物生長發育、生產技術與過程，及水生植物與環境的關係。提供修課學生未來水產養殖物種的新選擇。	This course focuses on marine algae and freshwater aquatic plants with economic value, providing the basis for their culture and cultivation. The twenty-first century is the century of biotechnology, and biotechnology research on seaweeds and aquatic plants is booming. Taiwan has abundant seaweed and aquatic plant resources, and with the development of seaweed aquaculture technology and the market demand for aquatic plants, this course introduces the current state of economic aquatic plant utilisation, the growth and development of aquatic plants, aquatic plant production techniques and processes, and the relationship between aquatic plants and the environment. The course will provide students with new choices of aquatic species for future aquaculture.	2	Elective Course	水產養殖學系 Department of Aquaculture	SDG14
2022	Undergraduate	B33022ID	2	A	養殖學實驗(一)	Aquaculture Lab. (I)	為培養和強化水產養殖系學生對水產生物的了解與認知，同時為訓練學生具理論與實務病種之學習態度與觀念，特期望建立完整而完善的學生"養殖學實驗"制度，以期能達到教育和訓練學生通盤且全方位的水產養殖專業人才。	In order to cultivate and strengthen the aquaculture students' understanding and awareness of aquatic organisms, and at the same time to train the students' learning attitude and concepts of theoretical and practical diseases, we hope to set up a complete and perfect system of "aquaculture experiments" for students, so as to achieve the goal of educating and training the students to be comprehensive and all-around professional talents in aquaculture.	1	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17

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2022	Undergraduate	B3302601	2	A	有機化學	Organic Chemistry	本課程介紹有機化學的基本知識，培養學生的學習興趣，以便進入有機化學殿堂。	This course provides an introduction to organic chemistry for students who are aiming toward careers in the sciences and require a grounding in organic chemistry.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG6、SDG13、SDG17
2022	Undergraduate	B3302L20	2	A	魚類學	Ichthyology	引導認識基礎的魚類形態, 解剖, 生態及演化.	Provides an introduction to the basics of fish morphology, anatomy, ecology and evolution.	2	Required Course	水產養殖學系 Department of Aquaculture	SDG4、SDG14、SDG15
2022	Undergraduate	B330325X	3	A	水產養殖實習	Aquaculture Internship	校外實習旨在提供同學機會親身體驗養殖相關產業現場及研究機關各種管理及操作，以驗證平日課堂學習，達到學以致用的效果。	The aim of the external internship is to provide students with the opportunity to experience first-hand the various management and operations of aquaculture-related industries and research institutes, so as to validate their learning in the classroom and achieve the effect of applying what they have learnt in the classroom.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B3303M9G	3	A	微細藻培養學	Microalgal Cultivation	1. 引導學生認識微細藻類培養技術：藉由教師及校外演講者介紹我國及世界海域可見之各種微細藻類及其培養技術，引導學生認識微細藻類培養技術之應用範圍。 2. 引導學生發現自身與微細藻類的連結：由教師引導學生查詢各種微細藻類培養技術，使學生瞭解微細藻類培養技術對產業的貢獻。 3. 使學生自發性的關心微細藻類相關產業的資訊：藉由課程進行，使學生在瞭解藻類後，開始關注並思索我國微細藻類相關產業現況與未來可能的變化，增進學生對微細藻類相關產業的關心與瞭解。	1. Introducing students to microalgae cultivation techniques: Teachers and external speakers will introduce various microalgae and their cultivation techniques that can be found in the sea areas of our country and the world, so as to guide students to understand the application of microalgae cultivation techniques. 2. to guide students to discover their own connection with microalgae: teachers will guide students to enquire about various microalgae cultivation techniques, so that students will understand the contribution of microalgae cultivation techniques to the industry. 3. To make students spontaneously care about the information of microalgae-related industries: Through the course, students will begin to pay attention to and think about the current situation and possible future changes of the microalgae-related industries in China after learning about algae, so as to increase students' concern and understanding of the microalgae-related industries.	2	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B3303U06	3	A	遺傳育種學	Genetic Breeding	本課程之授課對象為大學部三年級學生。主要講授講授孟德爾古典遺傳、細胞遺傳、族群遺傳、數量遺傳等水產養殖遺傳育種的基本學理與統計運算，讓學生瞭解數量性狀遺傳與選拔育種在水產養殖上之應用與重要性。搭配綜觀遺傳(genetic)、基因(gene)及基因體(genome)之現代分子遺傳於水產養殖生物選拔育種之基本學理與分子輔助選育技術，培育學生具備水產養殖生物遺傳育種學術理論與產	The teaching objects of this course are the third-year undergraduate students. For a broad understanding of the basic principles and statistical processing of genetics and breeding that can be applied to aquaculture, and to make students understand the importance of quantitative trait genetic selection and breeding in aquaculture.	3	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG12、SDG13、SDG14
2022	Undergraduate	B33043AZ	4	A	溪流生態保育與管理	Conservation and Management of Stream Ecology	1.了解溪流生態系及溪流生物多樣性 2.認識溪流魚類及物理棲地調查的方法 3.學習國內外溪流保育策略及相關復育作法 4.培養檢討溪流保育成效的能力 5.提出溪流保育新見解	1.Understand how stream ecology and stream’s diversity 2.Understand stream of fish and the survey method of physical habitat 3.Learn the domestic and oversea ways to stream conservation and restored stream 4.Cultivate the ability to review the stream conservation effect 5. Propose a new opinion of stream conservation	2	Elective Course	水產養殖學系 Department of Aquaculture	SDG13
2022	Undergraduate	B3304J22	4	A	專題研究	Research in Special Topics	請修課同學於期中考前完成實驗，整理數據，製作簡報。隨後口頭發表研究成果，及撰寫繳交書面專題報告。	Students are required to complete their experiments, collate data and prepare presentations before the mid-term examination. They will then present their research results orally and write a written report.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG2、SDG12、SDG14
2022	Undergraduate	B330145P	1	A	生物學(一)	Biology (I)	1. 為使學生對於生物及生命科學有正確觀念與認知，因此課程內容同時涵蓋定義、型態、生理、演化、遺傳與環境科學等不同領域。 2. 分別藉由不同分類層階與演化順序，完整介紹生命發展之歷程與多樣性，建構學生對不同生命形式之瞭解與尊重。 3. 藉由以"域"及"界"為歸納方式，讓學生能清楚認識不同生命形式之表現，以及物種多樣性存在之特色與價值，進而產生對於各式生物及其形質與生理表現的完整理解，並作為分別於細胞、組織、個體或生態相關學門之基礎教育。 4. 以生物學為基礎，同時導入細胞生物學、遺傳演化、棲地生態與保育生態學等不同應用科學，作為延伸學習之引導。	1. In order to enable students to have a correct concept and understanding of biology and life science, the curriculum covers the fields of definition, morphology, physiology, evolution, genetics and environmental science. 2. Through different classification levels and evolutionary sequences, the course introduces the complete development of life and its diversity, and builds students' understanding of and respect for different forms of life. 3. By using the terms "domain" and "boundary" as a means of generalisation, students will be able to have a clear understanding of the manifestations of different forms of life, as well as the characteristics and value of the existence of species diversity, and thus develop a complete understanding of various organisms and their physical and physiological manifestations, which can be used to differentiate between cells, tissues, organisms, and organisms. 4. Based on biology, the course also introduces various applied sciences such as cell biology, genetic evolution, habitat ecology and conservation ecology as a guide for extended learning.	3	Required Course	水產養殖學系 Department of Aquaculture	SDG14、SDG15
2022	Undergraduate	B3301L6M	1	B	普通化學實驗(一)	General Chemistry Lab.(I)	訓練學生熟悉普通化學中的基礎實驗,並應證與課程內容所述者,以建立理論與實驗的相互關係，並使學生學會化學實驗之基礎操作。		1	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG3、SDG4、SDG6、SDG7

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2022	Undergraduate	B3303L06	3	A	魚類生理學	Fish Physiology	本課程以對生物學有基礎概念的大學部學生為對象，內容將涵蓋細胞的特性、魚體組織與器官的運作，探討個體如何藉由生理反應來適應外在環境的改變。此外進一步比較魚類和其他物種間如何利用不同的生理反應來適應特定的	To understand the physiological characteristic of fish, we first focus on the cell constitution, tissue structure, and organ function. In the further, we discuss the distinctive mark of fish by comparative biology concepts.	3	Required Course	水產養殖學系 Department of Aquaculture	SDG12、SDG14
2022	Undergraduate	B3303L0B	3	A	魚類生理學實驗	Fish Physiology Lab.	本課程目的由學生實驗操作，實驗項目大多為魚類生理學之章節而設計，從實驗的過程中讓學生進一步瞭解魚類生理學之概念，並學習生理學實驗的基礎技術。	Fish physiology laboratory is used in conjunction with textbook of physiological lecture. In addition to providing hands-on experience in applying physiological concepts. Students will gain experience of basic skills in physiology laboratory techniques.	1	Elective Course	水產養殖學系 Department of Aquaculture	SDG14
2022	Undergraduate	B33022ID	2	B	養殖學實驗(一)	Aquaculture Lab. (I)	為培養和強化水產養殖系學生對水產生物的了解與認知，同時為訓練學生具理論與實務病種之學習態度與觀念，特期望建立完整而完善的學生"養殖學實驗"制度，以期能達到教育和訓練學生通盤且全方位的水產養殖專業人才。	In order to cultivate and strengthen the aquaculture students' understanding and awareness of aquatic organisms, and at the same time to train the students' learning attitude and concepts of theoretical and practical diseases, we hope to set up a complete and perfect system of "aquaculture experiments" for students, so as to achieve the goal of educating and training the students to be comprehensive and all-around professional talents in aquaculture.	1	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B3302263	2	A	水生生物實驗(1)	Aquatic Biology Lab.(I)	教導對魚類形態, 解剖, 分類等實作課程.	Teaches hands-on courses on fish morphology, anatomy, and classification.	1	Elective Course	水產養殖學系 Department of Aquaculture	SDG4、SDG14、SDG15
2022	Undergraduate	B330145Q	1	B	生物學實驗(一)	Biology Lab. (I)	藉親自動手操作，觀察印證生物學所敘述的生命現象、生物多樣性及生物與環境的關係。	Through hands-on experience, we will observe the phenomena of life, biodiversity and the relationship between organisms and the environment as described in Biology.	1	Required Course	水產養殖學系 Department of Aquaculture	SDG14、SDG15
2022	Undergraduate	B3302310	2	A	水質學	Analysis of Water Quality	水的重要性，水質與水生生物培育的關係	Importance of Water, Relationship between Water Quality and Aquatic Life Cultivation	3	Required Course	水產養殖學系 Department of Aquaculture	SDG3、SDG4、SDG6、SDG7、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B330345B	3	A	生物化學(二)	Biochemistry (II)	1. 本課程介紹生物化學的基本知識與基本理論，進而了解細胞的奧妙 2. 培養學生生物化學相關技能，以便應用於未來的工作。	The goals of this course are: 1. to gain sufficient fundamental understanding of the chemistry of life to be able to understand and communicate the principles that underlie the properties and function of living tissue on a molecular level; 2. to gain knowledge and skills relevant to careers either in biological sciences or in careers that utilize the informational content of, or are impacted by, research in biochemistry; 3. to be able to use this information to analyze and evaluate new projects	3	Required Course	水產養殖學系 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG12、SDG13、SDG14
2022	Undergraduate	B3303N0B	3	A	微細藻培養學實驗	Microalgal Cultivation Lab.	1. 引導學生認識微細藻類培養技術：藉由教師及校外演講者介紹我國及世界海域可見之各種微細藻類及其培養技術，引導學生認識微細藻類培養技術之應用範圍。 2. 引導學生發現自身與微細藻類的連結：由教師引導學生查詢各種微細藻類培養技術，使學生瞭解微細藻類培養技術對產業的貢獻。 3. 使學生自發性的關心微細藻類相關產業的資訊：藉由課程進行，使學生在瞭解藻類後，開始關注並思索我國微細藻類相關產業現況與未來可能的變化，增進學生對微細藻類相關產業的關心與瞭解。	1. Introducing students to microalgae cultivation techniques: Teachers and external speakers will introduce various microalgae and their cultivation techniques that can be found in the sea areas of our country and the world, so as to guide students to understand the application of microalgae cultivation techniques. 2. to guide students to discover their own connection with microalgae: teachers will guide students to enquire about various microalgae cultivation techniques, so that students will understand the contribution of microalgae cultivation techniques to the industry. 3. To make students spontaneously care about the information of microalgae-related industries: Through the course, students will begin to pay attention to and think about the current situation and possible future changes of the microalgae-related industries in China after learning about algae, so as to increase students' concern and understanding of the microalgae-related industries.	1	Elective Course	水產養殖學系 Department of Aquaculture	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B3301M9J	1	A	微積分(一)	Calculus (I)	希望能讓學生從微積分這門完整的基礎數學知識中學到如何運用數學語言進行思考，建立起分析問題與解決問題的能力。	It is hoped that students will learn how to think in the language of mathematics and build up their ability to analyse and solve problems from a complete basic mathematical knowledge of Calculus.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG4
2022	Undergraduate	B3302L20	2	B	魚類學	Ichthyology	引導認識基礎的魚類形態, 解剖, 生態及演化. 2021-9-28，10:20起，養2B魚類學 以GOOGLE MEET 遠距上課，請選課同學點擊下列鏈結，以進入課程。 https://meet.google.com/tyr-idzo-vhk	A guide to the basics of fish morphology, anatomy, ecology and evolution. 2021-9-28, 10:20 onwards, Aquaculture 2B Ichthyology will be held remotely via GOOGLE MEET, please click on the following link to enter the course. https://meet.google.com/tyr-idzo-vhk	2	Required Course	水產養殖學系 Department of Aquaculture	SDG4、SDG14、SDG15
2022	Undergraduate	B330440E	4	A	水產休眠與養殖運用	Aquatic Dormancy and Aquaculture Application	此課程意旨進一步提升修課同學對於水生生物休眠機制、生物學及其應用價值的認知。	The course aims to enhance student's understanding on the mechanisms, biology and application of dormancy in aquatic animals.	3	Elective Course	水產養殖學系 Department of Aquaculture	SDG3、SDG4、SDG7、SDG9、SDG11、SDG12、SDG13、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D3301151	1	A	內分泌與生殖生理	Reproduction and Endocrinology	本課程期使研究生瞭解內分泌全盤概念，包括由腺體、目標器官、信訊傳遞、生理作用、各內分泌系統之相互作用，並藉由分子層次解析各種內分泌之作用機制，本課程並加強介紹魚類內分泌系統之特殊性。本課程期使研究生瞭解內分泌全盤概念，包括由腺體、目標器官、信訊傳遞、生理作用、各內分泌系統之互相作用，並藉由分子層次解析各種內分泌之作用機制，本課程並加強介紹魚類內分泌系統之特殊性。	This course provides graduate students with an understanding of the overall concept of endocrine secretion, including the interactions between glands, target organs, signal transmission, physiological effects, and endocrine systems, and analyses the mechanisms of endocrine secretion at the molecular level, as well as the special characteristics of the endocrine system in fish. This course is designed to enable students to understand the overall concept of endocrinology, including the interactions between glands, target organs, signal transmission, physiology, and endocrine systems, and to analyse the mechanisms of endocrinology at the molecular level, with emphasis on the special characteristics of the endocrine system in fish.	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG12、SDG14
2022	PH.D Program	D33014O5	1	B	海洋生物演化與內分泌	Marine Evolutionary Biology and Endocrinology	使學生對海洋生物演化神經內分泌的功能與調控機制有更一步的了解。包括神經內分泌物質的分類、生成、釋放和代謝，以及不同神經激素系統對生理反應的調控。	To understand the function and mechanism in evolution and endocrinology of marine organisms. It contains different issues of endocrine hormones such as classification, biosynthesis, hormone releasing, and metabolism, and the regulation of physiological response in different endocrine systems.	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG14
2022	PH.D Program	D3311I38	1	A	專題討論	Seminar	1. 蒐集並整合科學資訊 2. 即時資訊索引與分享 3. 研究結果討論	1. collect and integrate scientific information 2. indexing and sharing of real-time information 3. Discussion of research results	1	Required Course	水產養殖學系博士班 Department of Aquaculture	SDG1、SDG2、SDG4、SDG8、SDG14
2022	PH.D Program	D3301P84	1	A	實驗設計與分析	Experimental Design and Analysis	This course provides the experimental designs, to look at the advantages, disadvantages, and uses of each type of experimental design, to outline the procedure for constructing the designs and to consider the analysis and interpretation for data from each type. To acquaint graduate students with a variety of experimental designs and research methodology followed by an in-depth analysis of the data and the interpretation of the results. This course therefore is tailored to meet the needs of researchers who plan to collect and summarize their data dissertations and research projects. It is hoped that this course will prepare the serious-mined student or researcher to design their experiments more efficiently and to be conversant with commonplace statistical techniques found in journal papers in their	This course provides the experimental designs, to look at the advantages, disadvantages, and uses of each type of experimental design, to outline the procedure for constructing the designs and to consider the analysis and interpretation for data from each type. To acquaint graduate students with a variety of experimental designs and research methodology followed by an in-depth analysis of the data and the interpretation of the results. This course therefore is tailored to meet the needs of researchers who plan to collect and summarize their data dissertations and research projects. It is hoped that this course will prepare the serious-mined student or researcher to design their experiments more efficiently and to be conversant with commonplace statistical techniques found in journal papers in their decipline.	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG8、SDG11、SDG14
2022	Master Program	M33014B5	1	B	國際餌料生物產業	International Live Feed Industry	依據國際間水產養殖產業的脈動及研究潮流，此課程的教學目標為介紹世界各地區水產養殖產業常用的餌料生物特性及培養技術，提升學生對於國際各區域間，新興餌料生物學術研究和特色產業最新發展的認知，使學生具有開發新興餌料生物培養技術的能力，對於發展區域性餌料生物產業及研究領域能有所貢獻。	Based on the international trends of aquaculture industry and research, the course introduces specific live feed aquaculture industry in different regions worldwide. The training is designed to enhance the student's understanding on live feed aquaculture and aspects of regional industry, it aims to enhance student's capacity to establish live feed production that contributes to regional aquaculture industry and research activities.	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG1、SDG3、SDG4、SDG7、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Master Program	M3301P80	1	A	實驗生物學	Experimental Biology	1. 本課程介紹分子生物及遺傳工程之應用 2. 培養學生分子生物及遺傳工程相關技能，以便應用於未來的工作。	To introduce the application molecular biology and genetic engineering and to discuss the recent papers	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG6、SDG7、SDG12
2022	Master Program	M330118M	1	A	重金屬儀器分析	Instrumental Analysis of Heavy Metal	檢驗應用相關課程增加學生重金屬檢測及儀器分析之專業知能	Practical-related courses to enhance students' professional knowledge and ability in the inspection and instrumental analysis of Heavy Metal	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG11、SDG14、SDG16、SDG17
2022	Master Program	M3301U08	1	B	遺傳工程	Genetic Engineering	1. 本課程介紹基因操作的基本知識與基本理論，進而了解細胞的奧妙 2. 培養學生基因操作相關技能，以便應用於未來的工作。	To explain a new and rapidly growing technology and to present the principles of gene manipulation, and its associated techniques	3	Elective Course	水產養殖學系博士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG7、SDG12、SDG13、SDG14、SDG17
2022	Master Program	M33011E9	1	A	SGS講座-水產食品安全管理暨實驗室認證系統	System of Food Safety Management and Laboratory Accreditation	增加學生水產養殖認驗證及食品安全觀念，並加強實驗室管理知識，培育水產專業相關人才。	This course was designed through seminar presentation, that will extend the basic knowledge of Food Safety and general requirements for the competence of testing. To cultivate domestic talents with aquaculture.	2	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Master Program	M330140D	1	B	浮游生物養殖技術	Cultivation Techniques of Plankton	依據國際間水產養殖產業的脈動及研究潮流，此課程的教學目標為介紹浮游生物的生物學特徵、採集分離技術、培養技術及其營養分析方法，提升學生對於浮游生物之學術研究和產業運用上最新發展的認知，配合操作演示課程，使學生具有開發不同浮游生物培養物種之技術及將其運用在水產養殖上作為餌料生物的能力，對於相關產業及研究領域能有所貢獻。	Based on the international industrial and research trends, this course aims to introduce the biology, isolation, cultivation and nutritional analysis technologies of planktonic organisms. The course could enhance student's knowledge on the latest industrial and academic developments in plankton cultivation. Demonstrations of live feed cultivation technique are included in this course, and is aimed to established students' capacity to develop plankton cultures and their application as live feed in aquaculture. The course aims to allow the students to contribute to aquaculture industry and research activities.	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG7、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M33011L7	1	A	比較生殖生物學	Comparative Reproduction	本課程從比較生物學的角度探討演化上初級性別決定基因與次級性別分化基因的異同，組織學上的異同，並進一步從神經內分泌的層級探討生殖腺的發育與成熟，期使學生對水生動物的生殖生理有全盤性概念，並瞭解生殖調控之機制與原理。	This lecture has a broadly-based introduction to the exciting and interdisciplinary field of reproduction and has designed it to be of used to advanced graduate student in biology and physiology. In addition, the comparative approach that I have discusses the difference of initial sex determination and in later sexual fate determination in the gonochorism and hermaphroditism.	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG12、SDG14
2022	Master Program	M33013D3	1	B	水產營養與飼料學	Fish Nutrition and Feedstuffs	This course will aim to provide a ground understanding through a holistic view to nutrition in aquaculture. It will approach the subject with due consideration of basic utilization and metabolism of finfish and ontogenetic, and their physiological features of importance to nutrition in aquaculture. This course also introduces the nutrition requirements of individual finfish species.	This course will aim to provide a ground understanding through a holistic view to nutrition in aquaculture. It will approach the subject with due consideration of basic utilization and metabolism of finfish and ontogenetic, and their physiological features of importance to nutrition in aquaculture. This course also introduces the nutrition requirements of individual finfish species.	2	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG4、SDG7、SDG12、SDG13、SDG14、SDG17
2022	Master Program	M33014M6	1	C	新興水產飼料與餌料生物之進展	Recent Trends of Emerging Aquafeeds and Live Feeds in Aquaculture	許多機能性營養物質(如：褐藻醣膠、蝦紅素、DHA)及替代性飼料原料(如：黑水虻、蠶豆、大型藻類)的添加，能促進水產生物之生理機能，進而提升水產品之品質與保健功能，另外，近年來水產養殖生物種類朝向多樣化之趨勢，水產種苗與開口餌料生物的培育技術，在新興養殖物種的生產過程中，扮演重要的角色，本課程針對水產飼料與餌料生物領域的研究及產業最新發展趨勢，邀請學術及產業界學者專家授課，介紹最新研究及產業發展，啟發學生之學習興趣，擴展對於該領域之認知，未來對相關產業及研究領域能有所貢獻。	The addition of many functional nutrients (e.g., fucoidan, astaxanthin, DHA) and alternative feed ingredients (e.g., black gadfly, fava beans, macroalgae) can promote the physiological functions of aquatic organisms, and thus enhance the quality and health care functions of aquatic products. This course focuses on the research and the latest development trend of aquatic feed and bait organisms, and invites scholars and experts from the academic and industrial fields to teach the course and introduce the latest research and industrial development, so as to inspire the students' interest in learning, expand their knowledge of the field, and make contributions to the related industries and research fields in the future.	2	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Master Program	M33010GA	1	A	魚類模式動物學	Special Topics on Fish as a Model Animal	斑馬魚已經成為新興的脊椎動物遺傳系統，本課程先經由介紹斑馬魚研究之重要遺傳工具與方法，讓修課同學認識斑馬魚不僅可做為研究養殖魚類的模式動物，亦可做為人類疾病的模式動物以加速藥物開發。經由研讀報告及討論相關研究之重要文獻，對於魚類做為模式動物的重要性能有更深入的瞭解。	Zebrafish has become an emerging vertebrate genetic system. This course introduces the important genetic tools and methods used in zebrafish research, so that students can understand that zebrafish can not only be used as a model animal for the study of fish farming, but also as a model animal for human diseases to accelerate drug development. Through reading the reports and discussing the important literature of related research, students will have a deeper understanding of the importance of fish as a model animal.	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG2、SDG4、SDG9、SDG14
2022	Master Program	M33010SZ	1	A	水產品藥物檢測與儀器分析	Principle and Technology of Test for Veterinary Drug Residues in Foods	開設檢驗應用相關課程，增加學生專業知能，提升食品安全觀念，加強實驗室管理知識，培育專業水產食品安全檢驗人才。	Provide courses on inspection and application to enhance students' professional knowledge, raise their concept of food safety and strengthen their knowledge of laboratory management, so as to nurture professional aquatic food safety inspection talents.	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG7、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Master Program	M3301L05	1	A	魚類分類學特論	Advanced Fish Taxonomy	教導認識世界魚類種群，命名法規，學名的記誦，資料庫及圖鑑的查詢應用，魚族的地理分布。 2021-9-28，14:10起，魚類分類學特論 以GOOGLE MEET 遠距上課，請選課同學點擊下列鏈結，以進入課程。https://meet.google.com/fsn-xaxv-rjm	.Teaches knowledge of the world's fish populations, nomenclature, recitation of scientific names, use of databases and maps, and geographic distribution of fish families. 2021-9-28, 14:10 onwards, Special Topics in Fish Taxonomy Remote lesson by GOOGLE MEET, please click the following link to enter the course. https://meet.google.com/fsn-xaxv-rjm	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG4、SDG14、SDG15
2022	Master Program	M33013YY	1	A	藻類機能性產品開發特論	Development of Functional Products with Algae	著重於藻類資源於生物科技或食品之應用，進而介紹其活性物質，瞭解其應用與開發。	Focus on the application of algae resources in biotechnology or food, and then introduce its active substances, understand its application and development.	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Master Program	M33014M5	1	C	精準農業及生技產業創業理論與應用	Theory and Applications of Entrepreneurship in Precision Agriculture and Biotech Industries	本課程除理論知識外，並結合實務面，在課程系統性導引下，將創新創業之想法化為可行之商業模式，使學員了解國內外創業生態系統並具備搜尋及整合創業資源能力。	In addition to theoretical knowledge, the programme also integrates practical aspects, and under the systematic guidance of the programme, students will be able to turn innovative ideas into feasible business models, understand the domestic and international entrepreneurial ecosystems, and be equipped with the ability to search for and integrate entrepreneurial resources.	2	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG3、SDG4、SDG9、SDG13
2022	Master Program	M3301L19	1	B	魚蝦貝類免疫學	Fish and Shellfish Immunology	介紹魚蝦貝類免疫	The aim of the course is to develop knowledge among students about the fish''s immune system, its interaction with fish pathogens and responses to stimulation and vaccines. Certain crustaceans will also be included. This knowledge is developed through lectures, group work, and written assignment submissions.	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG4、SDG14
2022	Master Program	M3301U08	1	A	遺傳工程	Genetic Engineering	1. 本課程介紹基因操作的基本知識與基本理論，進而了解細胞的奧妙 2. 培養學生基因操作相關技能，以便應用於未來的工作。	To explain a new and rapidly growing technology and to present the principles of gene manipulation, and its associated techniques	3	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG1、SDG2、SDG3、SDG4、SDG6、SDG13、SDG14、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M33014M4	1	C	農產品國際行銷管理	International Marketing Management of Agricultural Products	培養學生具有農產品品國際行銷的知識與策略分析能力。	To develop students' knowledge and strategic analysis of international marketing of agricultural products.	2	Elective Course	水產養殖學系碩士班 Department of Aquaculture	SDG3、SDG8、SDG9、SDG12、SDG13、SDG17
2022	Contiuning Education Bachelor Degree Program	E4N02412	2	C	外文領域(進階英文)	English	1) Enhance conversation, vocabulary, and listening abilities in English. 2) Build up the confidence in using English. 3) Help students to meet the qualifications of the possible workplace. 4) To be more competitive in the future workplace.	1) Enhance conversation, vocabulary, and listening abilities in English. 2) Build up the confidence in using English. 3) Help students to meet the qualifications of the possible workplace. 4) To be more competitive in the future workplace.	2	Required Course	外語教學研究中心(進) Institute of Applied English	SDG4
2022	Contiuning Education Bachelor Degree	E4N02412	2	A	外文領域(進階英文)	English	1.培養學生聽說讀寫能力 2.增進學生多元性文化認識 3.加強字彙能力 4.加強學生文法能力。	The main objective of this course is to improve students""""""" listening, speaking, reading and writing skills and comprehension. The students will be asked to practice listening and reading through useful conversations and well-written articles.	2	Required Course	外語教學研究中心(進) Institute of Applied English	SDG3、SDG4、SDG5、SDG12
2022	Contiuning Education Bachelor Degree Program	E4N02412	2	D	外文領域(進階英文)	English	1) Enhance conversation, vocabulary, and listening abilities in English. 2) Build up the confidence in using English. 3) Help students to meet the qualifications of the possible workplace. 4) To be more competitive in the future workplace.	1) Enhance conversation, vocabulary, and listening abilities in English. 2) Build up the confidence in using English. 3) Help students to meet the qualifications of the possible workplace. 4) To be more competitive in the future workplace.	2	Required Course	外語教學研究中心(進) Institute of Applied English	SDG4
2022	Contiuning Education	E4N11410	1	A	外文(英文)	English	請參考英文版如下	The goal of this course is to make students get interested in using English to communicate with people and enhance their accuracy and fluency.	2	Required Course	外語教學研究中心(進) Institute of Applied English	SDG3、SDG4、SDG5
2022	Contiuning Education	E4N11410	1	C	外文(英文)	English	The purpose of this course is to improve students" abilities in vocabulary, listening and reading.	The purpose of this course is to improve students abilities in vocabulary, listening and reading.	2	Required Course	外語教學研究中心(進) Institute of Applied English	SDG4
2022	Undergraduate	B30014N7	1	A	微學分課程『生命科學與生物科技』	Micro Credits Course “Life Science and Biotechnology”	藉由各種生命科學微型單元課程，提供學生彈性且多元的學習管道，培養學生自主學習及跨領域能力，使學生瞭解生命科學與生活各層面的相關性及在生物科技上的實際應用。	Provide students with multidisciplinary and flexible channels learning life sciences and biotechnology by taking micro-credit course offered by different forms of teaching methods.	2	Elective Course	生命科學院 College of Life Sciences	SDG4、SDG17
2022	Undergraduate	B30013OJ	1	A	微學分課程『生命科學與生活』	Micro Credits Course “Life Science and Living”	藉由各種生命科學微型單元課程，提供學生彈性且多元的學習管道，培養學生自主學習及跨領域能力，使學生瞭解生命科學與生活各層面的相關性及實際應用。	Through a variety of life science mini-module programmes, students are provided with flexible and diversified learning channels to cultivate their independent learning and cross-disciplinary abilities, and to enable them to understand the relevance and practical application of life science in various aspects of life.	2	Elective Course	生命科學院 College of Life Sciences	SDG4
2022	Master Program	M30014MO	1	A	國際行銷與跨域創業	International marketing and interdisciplinary entrepreneurship	面對日趨複雜的行銷環境，無論是B to B 或B to C的市場，行銷方式變化多端，新的行銷策略不斷地在市場上出現，創業者如何釐清跨域行銷問題的真相，避免掉入銷售惡性競爭的陷阱，是當前重要課題。故本課程結合前期計畫中的校內創新創業機制、區域及國際行銷管理與跨域創業之基礎及進階課程，以培育生技產業跨領域創新創業人才。課程涵括有創業所需之智財專利、技術鑑價、行銷、市場、財務、人才管理及風險評估等九大領域課程。	In the face of an increasingly complex marketing environment, whether it is a B to B or B to C market, the marketing methods are changing, and new marketing strategies are constantly appearing in the market. How can entrepreneurs clarify the truth of interdisciplinary marketing problems and avoid them Entering the trap of vicious competition in sales is an important issue at present. Therefore, this course combines the on-campus innovation and entrepreneurship mechanism, regional and international marketing management, and the basic and advanced courses of cross-domain entrepreneurship in the previous plan to cultivate interdisciplinary innovative and entrepreneurial talents in the biotechnology industry. The course covers nine major fields including intellectual property patents, technology appraisal, marketing, marketing, finance, talent management and risk assessment required for entrepreneurship.	2	Elective Course	生命科學院(碩) College of Life Sciences	SDG4、SDG9
2022	Master Program	M30014MN	1	A	多元農業法規與智財佈局規劃	Intellectual Property Management and Patent Analysis	本課程包括智財管理與法規、團隊組成及人才管理、財務及風險管理。前三天安排9個專題演講，內容包含：生產管理、行銷管理、風險管理、財務管理、財務報表撰寫、專利法概論、專利說明書閱讀與撰寫、專利檢索與專利地圖、專利布局、技術交易、公司組織與公司法、生技創投等主題。第四天及第五天由業師指導專利分析平台軟體的使用方式，並讓學員練習使用本校購買之專利分析資料庫，進行專利地圖佈建。	This course focuses on intellectual property management and regulations, team formation and management, financial and risk management. The first three days of the course are scheduled with nine keynote speeches, including production management, marketing management, risk management, financial management, financial statement planning, patent law reading and writing, patent search, patent map and layout design, company organization, corporate law and biotech venture topics. The last two days of the classes covered how to construct patent maps using the patent analysis platform software purchased by NTOU.	2	Elective Course	生命科學院(碩) College of Life Sciences	SDG8

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M30014MP	1	A	食品產業經營與管理	Food Industry Management	因應食品產業經營(包括食品開發與經營管理)發展趨勢，進行跨域課程整合，拓展學生多元領域的專業知能與素養，進而培育成為整合食品產業經營管理與行銷專業技能之跨領域人才，能夠應付未來職場上獨立作業，提昇職場競爭力與就業機會，甚具備獨立經營食品相關產業事業能力。	In response to the development trend of food industry management (including food development and management), integrate cross-domain courses, expand students" professional knowledge and literacy in multiple fields, and then cultivate cross-disciplinary talents who integrate food industry management and marketing professional skills. In the future, work independently in the workplace, enhance workplace competitiveness and employment opportunities, and even have the ability to independently operate food-related industries.	2	Elective Course	生命科學院(碩) College of Life Sciences	SDG4、SDG9
2022	Master Program	M30014MK	1	A	實驗動物飼養管理及操作技術	Laboratory animal husbandry and experimental technique	本課程目標為全國首創全系列實務訓練，為落實「動物保護法」中關於進行動物科學應用之機構應辦理實驗動物飼養管理訓練，讓學生能深化了解實驗動物福祉、飼養管理及加強學習相關實驗科技應用機巧，並以大小鼠全面性議題作為課程核心。適合有志於食品生物醫學基礎研究或實驗動物管理認證的研究學生選修。	This course is the first of its kind in China to provide a full range of practical training to implement the Animal Protection Act, which states that organisations conducting animal science should provide training in the husbandry and management of experimental animals. Students will gain a deeper understanding of the welfare of experimental animals, their husbandry and management, and learn more about the application of relevant experimental technologies, with the comprehensive topic of mice and rats as the core of the course. It is suitable for research students who are interested in basic food biomedical research or certification in experimental animal management.	1	Elective Course	生命科學院(碩) College of Life Sciences	SDG3、SDG4
2022	Master Program	M30014ML	1	A	藍碳、綠能與精準水產養殖科技	Renewable energy, ocean carbon sink and precision aquaculture	智能化精準水產養殖科技 全球已進入資料智慧時代，近年來推動傳統產業轉型，水產養殖亦已與生物技術（BT）、資訊技術（IT）、智慧技術（AT）及數位技術（DT）等科技跨領域結合發展AIoT、大數據、影像辨識及基因精準選育等智能化管理系統。本課程強調重點為精準化即將「水種餌病」自動化與智能化，包括：智慧增氧設備輔助精準監控水質環境（將水質監控結果連動智慧水車）、AI科技輔助優質食用與觀賞養殖生物種原基因體學（genomics）與表現體學（phenomics）精準選育、智能化疾病檢測(SAB)與遠端疾病診斷、智能化精準營養及投餵、智慧魚缸及周邊器材等，推動水產養殖產業轉型升級。 漁電共生（再生能源）─棚上發電，棚下養魚 漁電共生指太陽能設施與養殖經營相結合之生產模式。政府希望在不影響養殖情形下，推動綠能政策。同時能幫養殖戶減輕壓力，改善養殖環境，以漁業為主，發電為輔，增加附加價值，能夠達到漁電雙贏。本課程將介紹如何整合太陽能與風力發電設施、數位電表、數位水表及水質監測等儀器，並以AIOT科技與智慧增氧機與智慧投為機模組聯動，可節省飼料浪費及提高魚體成長率。亦可節省電費、水費等固定支出外，也能節省養殖業者的人事成本支出。水產養殖產業使用再生能源可減少養殖過程中溫室氣體排放，達到節能減碳目的。 海洋碳匯（藍碳）與智慧二枚貝養殖 在貝類的生長過程中，主要的食物是微藻類，而微藻類生長時又以二氧化碳進行光合作用，可降低大氣中二氧化碳。但微藻封存碳的能力短暫，如能培養藻類充作貝類餌料，並藉由鈣化作用，把碳酸離子轉換成碳酸鈣，就可把二氧化碳封存在貝殼中，達成長期的碳固化。以貝殼 99%碳酸鈣含量估算，每生產1,000公斤貝殼，可固化 440公斤二氧化碳，顯示二枚貝類養殖是目前對環境最友善養殖方式，同時對碳封存（碳匯）、淨零排放與降低溫室氣體排	Intelligent and accurate aquaculture technology The world has entered the era of data wisdom, in recent years to promote the transformation of traditional industries, aquaculture has also been combined with biotechnology (BT), information technology (IT), intelligent technology (AT) and digital technology (DT) and other interdisciplinary of science and technology to develop AIoT, big data, image recognition and gene precision breeding and other intelligent management systems. This course will focus on precision management of aquaculture, i.e., automation and intelligentization of 4 major subjects of aquaculture, i.e. "water quality, seeds, aquafeed and disease management", including: smart oxygenation equipment assisted precise monitoring of water quality environment, AI technology assisted precision selection of high-quality food and ornamental breeding organisms genomics and phenomics, intelligent disease detection (SAB) and distal disease diagnosis, intelligent accurate nutrition an	2	Elective Course	生命科學院(碩) College of Life Sciences	SDG7、SDG9、SDG11、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M30014MM	1	A	高經水產品數位化行銷與溯源管理	Digital marketing and traceability management of high economic value seafood	我國漁業以出口為導向，已成為全球漁業產量第21大國家，惟受限於內需市場有限，為因應全球貿易自由化，拓展國際通路已為首要課題，本課程將介紹對內水產養殖產業如何藉由導入供應鏈溯源管理數位工具促成智慧轉型，提升管理效率，降低成本與農產耗損，對外如何藉導入國際BAP標準及活魚保活冷鏈運輸技術，以國際級的水產品拓展國際數位行銷。另，台灣水產品以利基市場需求為導向，如何朝「生產國際級」與「行銷國際化」方向發展。著重「水產加值」規劃，將靈活運用國內外具數量、價格及品質優勢之原料，結合臺灣優質關鍵產製技術、安全健康生產歷程及強大水產研發能量等優勢，推動產業整合性加值發展，創新產業價值鏈，為臺灣水產品外銷產業注入新活力。 智慧與精準化水產養殖 數位生產：現今產業的發展早已進入供應鏈對供應鏈競爭的階段，一項產品的產銷鮮少能由單一廠商單獨完成，必需藉由整個供應廠商共同協力達成。水產養殖供應鏈亦涵蓋多重異質廠商，包括飼料、疫苗、魚苗、飼養、加工、冷鏈物流、及電商，各廠商資訊化程度不一，單一廠商已很難完整管理，整個上中下游廠商的管理更是一項高度挑戰的工作。精準水產養殖勢必分階段導入高科技設備，包括循環水系統、精準投餵系統、水質監測系統、環境監測系統、設備總控制中心、4G/5G網路、數據視覺化顯示、成長監測系統、魚病診斷系統，所有環節均將高度數位化整合在管理系統中，所收集之數據亦將應用AI技術找尋優化參數。另，水產品亦牽涉到食安問題，如果供應鏈各廠商的資訊無法彼此串接連結，食安問題將不易得到解決。目前水產養殖產業的「數位生產」擬解決的問題即為水產養殖產業建置數位化供應鏈管理平台。是將數位化養殖過程及品質與「數位行銷」連結，使產品能以安全及品質建立差異化，促進行銷並為產品加值。數位生產亦將與「水產雲商業模式」結合與探討整個供應鏈共贏的商業模式。	Export-oriented fishery in our country, has become a global fisheries production 21 big country, but is confined to the domestic market is limited, in response to global trade liberalization, expand the international pathways has for the first topic, this course will introduce domestic aquaculture industry how to borrow from import supply chain traceability management digital tools for transformation of intellegent, improve management efficiency, reduce cost and aquacultural consumption, How to introduce international BAP standard and live fish cold chain transportation technology to expand international digital marketing with international seafood products. In addition, how to develop towards the direction of "international production" and "international marketing" for Taiwan seafood with the demand of niche market as the guide? Emphatically "aquatic bonus plan, the flexible use of quantity, price and quality advantage at home and abroad of raw materials, key production technology com	2	Elective Course	生命科學院(碩) College of Life Sciences	SDG9、SDG12、SDG14
2022	Undergraduate	B3B012W0	1	A	程式設計及資料處理	Programming language and data processing	具備基本的Python應用在資料科學與機器學習,英文打字能力	Basic Python for data science and machine learning applications, English typing skills	2	Required Course	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG3、SDG4、SDG9、SDG11、SDG12、SDG13、SDG14
2022	Undergraduate	B3B012W0	1	A	程式設計及資料處理	Programming language and data processing	具備基本的Python程式設計,英文打字能力	Basic Python programming, English typing skills.	2	Required Course	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG3、SDG4、SDG9、SDG11、SDG12、SDG13、SDG14
2022	Undergraduate	B3B030KW	3	A	生命科學論文資訊與科學研究	Research Databasas and Responsible Conduct in Life Science	課程內容分為三部分：科學論文解讀，資料庫檢索，以及科學研究倫理。 1.科學論文的結構分析：介紹科學論文中背景介紹、實驗方法、實驗結果、圖說、以及討論各自的功能以及內容重點。學生自行尋找一篇論文，引導學習去理解論文研究的動機、研究策略發法、邏輯思維、以及論文引證。 2.資料庫檢索：介紹各重要資料庫的精準檢索方法以及相關領域發展趨勢的分析，引導學生正確引用文獻，快速找出重要參考資料。 3.科學研究倫理：以主題討論的方式引導學生建立研究工作上的正確觀念，讓學生了解科學研究的價值。	The course is divided into three parts: interpretation of scientific papers, database searching, and ethics of scientific research. 1. 1. Structural Analysis of Scientific Papers: Introduces the functions and content of background, experimental methods, results, illustrations, and discussion in scientific papers. Students will find a paper of their own and be guided to understand the motivation, research strategy, logical thinking, and citation of the paper. 2. Database Searching: Introduces the accurate searching methods of various important databases and analyses of the development trends in related fields, guiding students to cite literature correctly and find important reference materials quickly. 3. Ethics of Scientific Research: To guide students to establish the correct concepts of research work by means of thematic discussion, so that students can understand the value of scientific research.	2	Elective Course	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG3、SDG4、SDG9、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Undergraduate	B3B01NNU	1	A	服務學習_愛校服務	Service-Learning Program-Campus Service	透過校園公共區域打掃服務培養愛校精神與服務學習態度	Cultivate school spirit and service-learning attitude through cleaning services in campus common areas.	0	Service Learning Program	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG1、SDG3、SDG4、SDG5、SDG7、SDG11、SDG12、SDG16
2022	Undergraduate	B3B04I3F	4	B	專題討論(二)	Seminar (II)	訓練學生如何閱讀生命科學相關專業期刊論文	Training students on how to read life science-related professional journal articles	1	Required Course	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B3B0145Q	1	A	生物學實驗(一)	Biology Lab. (I)	期望藉由實驗課程的操作，對生命科學有一基礎認知，繼而引發學生對生命科學的興趣，繼續進修相關的各項專科高階課程，或在對生命奧秘的探討有研究的熱忱。	Through operating the experiments by themselves, the students will gain the knowledge of life science.	1	Required Course	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG4
2022	Undergraduate	B3B23L6S	3	A	普通微生物學(二)	Microbiology (II)	1. 承接微生物學（一），能更深入掌握各微生物的特性。 2. 了解微生物和寄主之間的關係。 3. 能關懷微生物與人類疾病間關係，並具備研究能力。	This lecture leads the students know the principle of microbiology. There are three main purposes: 1.Let students know the fundamental knowledge of viruses. 2.To investigate the interaction between microbe and host. 3.Let students know the concepts of microorganisms and human disease.	3	Elective Course	生命科學暨生物科技學系 Department of Bioscience and Biotechnology	SDG3、SDG4、SDG6
2022	PH.D Program	D3B12I38	2	A	專題討論	Seminar	訓練生科博士生具國際論文閱讀能力	Training of PhD students in Biotechnology with international reading skills.	1	Required Course	生命科學暨生物科技學系博士班 Department of Bioscience and Biotechnology	SDG4
2022	PH.D Program	D3B010G9	1	A	發育生物學	Developmental Biology	藉由介紹發育生物學的基本觀念及實驗技術，讓學生學習各種無脊椎及脊椎模式動物的早期發育、體型建立及器官發育的機制。	This course introduces concepts and commonly used techniques of Developmental Biology. The content covers mechanisms of early development, body plan formation, and organ development of different invertebrate and vertebrate animal models.	3	Elective Course	生命科學暨生物科技學系博士班 Department of Bioscience and Biotechnology	SDG4
2022	PH.D Program	D3B01160	1	A	分子生物學	Molecular Biology	Students possess molecular biology-related knowledge	Students possess molecular biology-related knowledge	3	Required Course	生命科學暨生物科技學系博士班 Department of Bioscience and Biotechnology	SDG3、SDG9
2022	Master Program	M3B011BF	1	A	英文文法與習作	English Grammar and Exercise	教學目標在於幫助學生在英文的寫和閱讀方面能順暢。課堂上，由老師講解各種句子方法，包括標點的使用，課後，學生必須用課堂所學做句子組合練習。透過充分的練習，預期學生完成課程後，不但閱讀能力提升，而且能有精確、簡潔、流暢的文字表達能力。	The course aims to help students acquire the ability to read and write college-level reading materials fluently. In class, the instructor will introduce a variety of sentence combining and expanding techniques—including grammar, usage, and punctuation; then, students, provided with follow-up exercises, will be asked to apply these techniques to produce more specific, concise and fluent sentences. By the end of this course, through abundant sentence-combining practice, students are expected to be able to use a variety of ways to express their ideas out onto the page in clear and coherent English.	2	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG1、SDG4
2022	Master Program	M3B012GH	1	A	藻類活性物質暨生醫概論	Seaweed bioactive substance and its medical research	聚焦藻類資源應用於生物科技之發展。從藻類資源開始認識，特別是台灣周邊地區，進而介紹其活性物質之萃取方式，最後瞭解其應用面。將產業應用與學術理論做串聯，使學生得以瞭解自身所學之特色及可應用方向。	In this course, we focus on marine resources applied to biotechnology. From the beginning, we introduce the marine source, especially Taiwan surrounding area. Further, we descript the extracting process of marine bioactive substances, finally to understand its application. We wish students can have deep self-understanding about their marine knowledge and career readies.	2	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG8、SDG9
2022	Master Program	M3B014M9	1	A	多元健康之國際行銷與跨域創業	International Marketing and Entrepreneurship in Multidisciplinary Health Industry	帶領學員從行銷概論、商業模式、價值主張與品牌構成元素，到以實例探討動物健康、機能保健食品等多元健康產業之國際行銷策略。	From the perspectives of marketing and business model, product value proposition, brand promotion, etc., to introduce international marketing strategies. This course will also illustrate the promotion strategies of multidisciplinary healthy industries such as animal health and functional food through real cases.	2	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG3
2022	Master Program	M3B014MB	1	A	水圈生物多元健康(二)	Aquatic Animals and the Multidisciplinary Health Industry (II)	內容涵蓋最新的動物疾病檢測、防治、營養與健康相關科技與產業資訊。講師包含具有國際經驗的專家學者。歡迎外籍學生一起加入本課程並與本地學員共同組成創業團隊學習。	The content covers the latest animal disease detection, prevention, nutrition and health related technology and industry information. The lecturers are experts and scholars with international experience. International students are welcome to enroll it his course and form an entrepreneurial team with local students.	1	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG3、SDG9
2022	Master Program	M3B014MC	1	A	人工智慧跨域多元健康	Artificial intelligence in multidisciplinary health industry	AI應用在精準農業已為現今趨勢，本課程將介紹AI與數據分析工具，並透過實際動手操作，熟悉這些工具的使用。	The application of artificial intelligence (AI) has been widely applied to precision agriculture in recent years. This course primarily focus on introducing AI and data analysis tools. Combined with the practice session, students can become more familiar with the application of these tools in precision agriculture.	2	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG4、SDG7、SDG9、SDG12、SDG13、SDG14
2022	Master Program	M3B014MD	1	A	新興動物疾病防禦科技	Emerging Animal Disease Defense Technologies	動物疾病檢測日趨重要，本課程將針對伴侶動物以及經濟動物的抗體檢測、疾病檢測、病原菌檢測等面向，邀請業界與學界專業人士分享實際應用案例。	Animal disease detection is becoming important nowadays. This course will focus on antibody detection, disease detection, and pathogen detection of companion and economic animals. Lectures are provided by invited professionals from industry and academia. This course will discuss cutting-edge application of animal disease detection.	2	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG3、SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M3B014ME	1	A	農業大數據與區塊鏈應用	Big Data and Blockchain in Agricultural Application	動物健康與疾病檢測相關產品開發以及區塊鏈於疾病診斷與防治上之應用實作。	Implementation of blockchain on animal health, disease diagnosis and prevention.	1	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG4
2022	Master Program	M3B014MA	1	A	水圈生物多元健康(一)	Aquatic Animals and the Multidisciplinary Health Industry (I)	內容涵蓋最新的動物疾病檢測、防治、營養與健康相關科技與產業資訊。講師包含具有國際經驗的專家學者，並以全英語講授課程。歡迎外籍學生一起加入本課程並與本地學員共同組成創業團隊學習。	The content covers the latest animal disease detection, prevention, nutrition and health related technology and industry information. The lecturers are experts and scholars with international experience and will teach in English. International students are welcome to enroll it his course and form an entrepreneurial team with local students.	1	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG3、SDG9、SDG12
2022	Master Program	M3B012GI	1	A	無機化學導論(一)	Introduction to Inorganic Chemistry (Ⅰ)	課程除了說明無機化學的基本知識外，也會介紹分子鍵結與酸鹼理論及基礎的固態化學、配位化學及生物無機化學觀念。無機化學知識的授與也提供學生在相關課程及研究的瞭解。	This course included the basics of inorganic chemistry, bonding theory, acid-base chemistry, solid-state chemistry, coordination chemistry, and bio-inorganic chemistry. A foundational understanding of inorganic chemistry also allows students to begin research and prepare for the upper-level research subjects and courses.	2	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG4
2022	Master Program	M3B014MF	1	A	多元健康生物技術實習	Biotechnology Internship for multidisciplinary health industry	篩選在AI應用於新農業領域相關之公司，期望學生透過實際參與公司運作累積職場經驗與探索職涯發展。	Provide internship opportunity for students in companies related to AI application in agricultural biotechnology industry. Students who enrolled in this course can obtain experience and explore their career development through actual participation in company operation.	1	Elective Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG4
2022	Master Program	M3B11I38	1	A	專題討論	Seminar	教導學生學習研究相關知識及口頭報告技巧	Teach students to learn about research-related knowledge and oral presentation skills	1	Required Course	生命科學暨生物科技學系碩士班 Department of Bioscience and Biotechnology	SDG4
2022	Undergraduate	B8903I3J	3	K	專題研究(二)	Independent Study(II)	使學生能藉由此專題研究綜合所學,自主學習,團隊合作,培養創新、分析、設計及實踐之能力	Students will be able to synthesise what they have learnt through this project, learn independently, work in teams, and develop the ability to innovate, analyse, design and put into practice.	1	Elective Course	光電與材料科技學系 Department of Optoelectronics and Materials Technology	SDG4、SDG9
2022	Undergraduate	B8901L6L	1	A	普通化學(一)	General Chemistry(I)	普通化學為生命科學及其跨領域的基礎課程，本課程擬在大學一年級時將普通化學的基本原理及其實驗方法做廣泛多角度的介紹與討論，以奠定大學部學生跨領域的化學基礎。	General Chemistry is a foundation course in the life sciences and its interdisciplinary areas. This course aims to introduce and discuss the basic principles of general chemistry and its experimental methods in a broad and multi-faceted manner in the first year of the university, so as to lay the foundation for interdisciplinary chemistry for the undergraduate students.	2	Required Course	光電與材料科技學系 Department of Optoelectronics and Materials Technology	SDG4
2022	Undergraduate	B89032UT	3	D	專題研究(一)	Independent Study(I)	使學生能藉由此專題研究綜合所學,自主學習,團隊合作,培養創新、分析、設計及實踐之能力	Students will be able to synthesise what they have learnt through this project, learn independently, work in teams, and develop the ability to innovate, analyse, design and put into practice.	1	Required Course	光電與材料科技學系 Department of Optoelectronics and Materials Technology	SDG4
2022	Undergraduate	B89032UT	3	K	專題研究(一)	Independent Study(I)	使學生能藉由此專題研究綜合所學,自主學習,團隊合作,培養創新、分析、設計及實踐之能力	Students will be able to synthesise what they have learnt through this project, learn independently, work in teams, and develop the ability to innovate, analyse, design and put into practice.	1	Required Course	光電與材料科技學系 Department of Optoelectronics and Materials Technology	SDG4、SDG7、SDG9、SDG14
2022	PH.D Program	D8901V62	1	A	擴散學	Diffusion and Diffusion Reaction	1.學習擴散在材料(含金屬、合金、及非金屬)之基本原理與應用 2.探討不同擴散因子在材料上的差異性 3.擴散控制之成核、成長及巨凝過程 4.擴散在材料製程上的應用，包括: a.鋼鐵相變化 b.薄膜製造應用 c.表面厚膜與塗層應用	1. To learn the basic principles and applications of diffusion in materials (including metals, alloys, and non-metals). 2. To explore the differences of different diffusion factors in materials. 3. Nucleation, growth and macro-condensation process of diffusion control. 4. Application of diffusion in material manufacturing process, including. a. Steel phase changes b. Thin film manufacturing applications c. Surface thick film and coating applications".	3	Elective Course	光電與材料科技學系博士班 Department of Optoelectronics and Materials Technology	SDG4
2022	PH.D Program	D89013RP	1	A	半導體製程專論	Special Topics of Semiconductor Process	使修課學生瞭解半導體製程原理與應用知識並對實際的半導體工業有一完整的認識，以利研究生畢業後具有從事相關半導體、光電產業之基本工程知識背景。	This course is designed to enable students to understand the principles and applications of semiconductor processes and to gain a complete understanding of the actual semiconductor industry, so that they will be able to engage in the semiconductor and optoelectronic industries with basic engineering knowledge after graduation.	3	Elective Course	光電與材料科技學系博士班 Department of Optoelectronics and Materials Technology	SDG4、SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D8901R22	1	A	腐蝕專論	Corrosion and High-Temperature Oxidation	本課程之目標在使學生由課程中學習腐蝕與防治相關之知識，主要包括下列重點： 1.瞭解腐蝕發生之基本原理及分類 2.水溶液腐蝕及其防治原理 3.腐蝕抑制劑之選用方式 4.金屬與氣氛反應之高溫腐蝕原理 5.金屬高溫氧化與其反應機構 6.合金高溫氧化與其反應機構 7.合金高溫熱腐蝕與其反應機構 8.合金高溫混合氣腐蝕與其反應機構	The objectives of this course are to enable students to learn the knowledge related to corrosion prevention and control, including the following key points: 1. Understanding the basic principles of corrosion and its classification. 2. Corrosion in aqueous solution and its prevention principles. 3. Selection of corrosion inhibitors 4. The principle of high-temperature corrosion of metal and atmosphere reaction. 5. High-temperature oxidation of metals and its reaction mechanism 6. Alloy high temperature oxidation and its reaction mechanism 7. Alloy high-temperature thermal corrosion and its reaction mechanism 8. Alloy high temperature mixed gas corrosion and its reaction mechanism	3	Elective Course	光電與材料科技學系博士班 Department of Optoelectronics and Materials Technology	SDG4
2022	PH.D Program	D89010YH	1	A	低維奈米材料	Low-dimensional Nanomaterials	講授最新國際低維奈米材料發展現況，讓修課學生瞭解各種低維奈米材料合成方式、結構分析之技術以及材料之光、電、磁物理特性之原理，並以實際之例子搭配幾次實作參予活動讓學生見習低維材料之合成與分析之技術應用。	To teach the latest international development of low-dimensional nanomaterials, students will learn about the synthesis of various low-dimensional nanomaterials, the techniques of structural analysis, and the principles of optical, electrical, and magnetic properties of the materials, as well as practical examples and several hands-on activities to allow students to see the synthesis and analysis of low-dimensional materials and the application of the technology.	3	Elective Course	光電與材料科技學系博士班 Department of Optoelectronics and Materials Technology	SDG3、SDG4、SDG6、SDG7
2022	PH.D Program	D89014MH	1	A	先進陶瓷專論	Special topics on advanced ceramics	本課程乃先介紹先進陶瓷的基本性質、組成、結構、工藝與材料性能的關係，之後針對碳化硼(B4C)、氧化鋯(ZrO2)等先進陶瓷材料系統性介紹其結構、製備工藝、材料性能及相關應用。	This course introduces the basic properties, composition, structure, process and material properties of advanced ceramics, followed by a systematic introduction to the structure, preparation process, material properties and applications of advanced ceramic materials such as Boron Carbide (B4C) and Zirconia (ZrO2).	3	Elective Course	光電與材料科技學系博士班 Department of Optoelectronics and Materials Technology	SDG4、SDG9
2022	Master Program	M89014HW	1	A	半導體物理與元件	Physics of semiconductor devices	本課程專注在一些基本結構例如：PN接面、金屬-半導體接觸點、雙極性電晶體、尤其是MOSFET的深入說明。以這些元件結構紮實的理論為基礎，可以很容易的瞭解其他重要的應用元件，例如：太陽電池、LED、二極體雷射、CCD、CMOS影像器、HEMT、以及記憶體元件等。希望能以精實、整體化、而又不枯燥的方式達到兼具深度和廣度的教學成果。	This course focuses on in-depth descriptions of basic structures such as PN contacts, metal-semiconductor contacts, bipolar transistors, and especially MOSFETs. Based on the solid theory of these structures, it is easy to understand other important applications such as solar cells, LEDs, diode lasers, CCDs, CMOS imagers, HEMTs, and memory devices. We hope to achieve both depth and breadth of teaching results in a concise, holistic, and not boring way.	3	Elective Course	光電與材料科技學系碩士班 Department of Optoelectronics and Materials Technology	SDG3、SDG4、SDG4、SDG9、SDG9、SDG11
2022	Master Program	M89013BQ	1	A	新穎顯示器技術導論	Introduction of Novel Display Technology	有關新式顯示器技術原理介紹, 如液晶顯示器, 有機發光顯示器, 3D Display, 抬頭顯示器, 透明顯示器及反射式顯示器	ntroduction of the novel displays including LCD, AMOLED, 3D display, Head-up display, transparent display, and reflective display.	3	Elective Course	光電與材料科技學系碩士班 Department of Optoelectronics and Materials Technology	SDG1、SDG4、SDG8、SDG12、SDG17
2022	Master Program	M89014HW	1	A	半導體物理與元件	Physics of semiconductor devices	本課程專注在一些基本結構例如：PN接面、金屬-半導體接觸點、雙極性電晶體、尤其是MOSFET的深入說明。以這些元件結構紮實的理論為基礎，可以很容易的瞭解其他重要的應用元件，例如：太陽電池、LED、二極體雷射、CCD、CMOS影像器、HEMT、以及記憶體元件等。希望能以精實、整體化、而又不枯燥的方式達到兼具深度和廣度的教學成果。	This course focuses on in-depth descriptions of basic structures such as PN contacts, metal-semiconductor contacts, bipolar transistors, and especially MOSFETs. Based on the solid theory of these structures, it is easy to understand other important applications such as solar cells, LEDs, diode lasers, CCDs, CMOS imagers, HEMTs, and memory devices. We hope to achieve both depth and breadth of teaching results in a concise, holistic, and not boring way.	3	Elective Course	光電與材料科技學系碩士班 Department of Optoelectronics and Materials Technology	SDG3、SDG4、SDG4、SDG9、SDG9、SDG11
2022	PH.D Program	D9G014AD	1	A	永續發展EMI - 海洋資源的開發與保育(科技)	Sustainable Development EMI - Exploitation and Conservation of Ocean Resources	此課程並非學習物理、化學、地質、生物海洋方面的海洋學，然而它聚焦在開 發並保育來自海洋的可再生及不可再生的資源。由於課程開始會簡介海洋 學，因此不須要先修過海洋方面的課程即可來修習本課程。接着學生會學習到 海洋動態，如水文與氣象的變化等和人為活動，如捕魚、航海、採礦等之間的 相互作用。人為活動對海洋環境及資源的影響會被揭示，而且據此提出適當的 政策及管理經營策畫，是以將負面衝擊極小化來達到資源的永續利用以及人與 海洋之間的和諧。	This course is not Oceanography which mainly looks at the physical, chemical, geological and biological aspects of the ocean. However it focuses on the exploitation and conservation of the renewable and non-renewable resources from the ocean. Since a brief introduction to Oceanography will be covered at the beginning so that no prerequisite course on ocean is required. Students will then learn about the interactions between ocean dynamics, such as hydrological and climatic change and human activities, such as fishing, navigation and mining, etc. Influence of human activities on ocean's environment and resources will be revealed and accordingly, proper policy and management scheme will be proposed to minimize the adverse impact so that sustainable use of the resources and harmony between human and ocean will be achieved. After 8 week's lecture, students will be divided into 16 groups to prepare for their seminar presentations on various topics of ocean resource management during the res.	2	General Course	共同教育中心(博) General Education Center	SDG6、SDG7、SDG8、SDG13、SDG14、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D9G014HY	1	A	永續發展EMI - 世界遺產導論(人格)	Sustainable Development EMI - The introduction of World Heritage	《保護世界文化和自然遺產公約》（Convention Concerning the Protection of the World Cultural and Natural Heritage，CCPWCNH），就締約國數量而言，乃國際上影響力最大的條約之一（193國締約，2019年數據），旨在保護具有「傑出普遍價值」（outstanding universal value）的場址。本課程以世界遺產作為主軸，從定義開始，續而由淺入深地從國際建制闡述至包括政治、法律與文化等面向，並聚焦在當前面臨的威脅與困難。此外，本課程亦將提供許多文明圈的世界遺產，作為個案研究與探討，期盼使學生認識不同文化，開拓視野，浸濡全球多元文化的格局。最後，雖然礙於國際政治現實，我國遲遲未能正式參與世界遺產公約，但文化部也從善如流，以未雨綢繆的正面心態，遴選具有傑出普遍價值的適格場址，並賡續推廣之，為奠定立國基石而努力，因此本課程	The Convention Concerning the Protection of the World Cultural and Natural Heritage (CCPWCNH) aims to protect cultural and natural sites of outstanding universal value. The CCPWCNH is one of the most influential treaties, with 193 States Parties in 2019. This course begins with the definition of World Heritage, then goes on to the international regime of it. The course will also provide numerous case studies from all over the world, and it provides students with the intellectual resources to further their academic development. Finally, the regime for the protection of potential World Heritage in Taiwan will be focused.	2	General Course	共同教育中心(博) General Education Center	SDG4、SDG6、SDG8、SDG9、SDG11、SDG13、SDG14、SDG15、SDG16、SDG17
2022	PH.D Program	D9G014I1	1	A	永續發展EMI - 基本人權專題(民主)	Sustainable Development EMI - Seminar on Constitutional Rights	01. 藉由人權專題認識我們日常生活中與自身息息相關的基本權利 02. 瞭解網路時代，新興的基本權利及其規範內涵. 03. 使同學們學到相關的知識和守法的精神	1. By means of human rights issues for discussion, we may learn the scope and the limit of particular identity-related Constitutional rights. 2.To see, in the Internet age, kinds of newly emerging human rights and its content. 3.To help our students obtaining the relevant knowledge and cultivating the mind and law-abiding spirit in this class.	2	General Course	共同教育中心(博) General Education Center	SDG4、SDG10、SDG16
2022	PH.D Program	D9G014BO	1	A	永續發展EMI - 微生物與疾病(科技)	Sustainable Development EMI - Microbes and diseases	使學生對造成人類疾病之微生物有更多認識，了解疾病的發生與傳播，提升健 康維護與公共衛生意識。	This course aims to give a general understanding of microbial pathogens of human,infectious diseases, and disease transmission in a perspective of public science, which could help to enhance the awareness of public health.	2	General Course	共同教育中心(博) General Education Center	SDG3、SDG11
2022	PH.D Program	D9G014BO	1	A	永續發展EMI - 微生物與疾病(科技)	Sustainable Development EMI - Microbes and diseases	使學生對造成人類疾病之微生物有更多認識，了解疾病的發生與傳播，提升健 康維護與公共衛生意識。	This course aims to give a general understanding of microbial pathogens of human,infectious diseases, and disease transmission in a perspective of public science, which could help to enhance the awareness of public health.	2	General Course	共同教育中心(博) General Education Center	SDG3、SDG11
2022	PH.D Program	D9G014MV	1	A	永續發展EMI - 海洋科學概論	Introduction to Oceanography	藉由不同海洋領域的老師介紹海洋科學，帶領同學從不同面向瞭解海洋。	Introducing oceanography by different professors who major in different marine subjects. This could lead students to understand the ocean from different perspective.	2	Elective Course	共同教育中心(博) General Education Center	SDG13、SDG14
2022	PH.D Program	D9G014I1	1	A	永續發展EMI - 基本人權專題(民主)	Sustainable Development EMI - Seminar on Constitutional Rights	01. 藉由人權專題認識我們日常生活中與自身息息相關的基本權利 02. 瞭解網路時代，新興的基本權利及其規範內涵. 03. 使同學們學到相關的知識和守法的精神	1. By means of human rights issues for discussion, we may learn the scope and the limit of particular identity-related Constitutional rights. 2. To see, in the Internet age, kinds of newly emerging human rights and its content. 3. To help our students obtaining the relevant knowledge and cultivating the mind and law-abiding spirit in this class.	2	General Course	共同教育中心(博) General Education Center	SDG4、SDG10、SDG16
2022	PH.D Program	D9G014AD	1	A	永續發展EMI - 海洋資源的開發與保育(科技)	Sustainable Development EMI - Exploitation and Conservation of Ocean Resources	此課程並非學習物理、化學、地質、生物海洋方面的海洋學，然而它聚焦在開發並保育來自海洋的可再生及不可再生的資源。由於課程開始會簡介海洋學，因此不須要先修過海洋方面的課程即可來修習本課程。接着學生會學習到海洋動態，如水文與氣象的變化等和人為活動，如捕魚、航海、採礦等之間的相互作用。人為活動對海洋環境及資源的影響會被揭示，而且據此提出適當的 政策及管理經營策畫，是以將負面衝擊極小化來達到資源的永續利用以及人與海洋之間的和諧。	This course focuses on the exploitation and conservation of the renewable and non-renewable resources from the ocean. This course is not Oceanography which mainly looks at the physical, chemical, geological and biological aspects of the ocean. However it focuses on the exploitation and conservation of the renewable and non-renewable resources from the ocean. Since a brief introduction to Oceanography will be covered at the beginning so that no prerequisite course on ocean is required. Students will then learn about the interactions between ocean dynamics, such as hydrological and climatic change and human activities, such as fishing, navigation and mining, etc.	2	General Course	共同教育中心(博) General Education Center	SDG6、SDG7、SDG8、SDG13、SDG14、SDG17
2022	PH.D Program	D9G014EK	1	A	與臺灣相遇：一場文化與人文的體驗行銷(人格)	Encounter with Taiwan: an experiential marketing of culture and humanities	「與臺灣相遇」是針對外籍生所開設的課程，其特色是讓學生可以經由專題演講、實務參訪以及經由五感來來實際體驗臺灣的人文、歷史與自然風情，讓學生能夠知道臺灣的過去的歷史、臺灣現在的人事物，以及未來臺灣的成長動力，是一門理論與實務並重的跨領域科目。 教學目標 1.瞭解臺灣的人文與風俗、社會與歷史、自然景觀，以及商業活動等 2.藉由主題演講與參訪實做讓學生可以經由五感來認識臺灣 3.經由分組討論與期末報告協助學生構思如何在臺所學回饋自己的國家	"Encounter with Taiwan" is a course for foreign students. Students can actually experience Taiwan's humanities, history, and natural customs through lectures, practical visits, and through the five senses to learn about Taiwan's past, history, the people and affairs of Taiwan now, and the growth momentum of Taiwan in the future. The course is cross-disciplinary subjects that emphasize both theory and practice. 1.Understand Taiwan's humanities and customs, society and history, natural landscape, and commercial activities, etc. 2.Through keynote speeches and visits, students can get to know Taiwan through five senses 3.Through group discussion and final report, assist students in conceiving how to give back to their country by studying in Taiwan	2	General Course	共同教育中心(博) General Education Center	SDG4、SDG9、SDG11、SDG12

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D9G014EN	1	A	台灣之美(人格)	The Beauty of Formosa	This course is designed as the introduction to the multifaceted beauty of Taiwan. This course will enable students to appreciate the various aspects of Taiwan's culture and famous tourist attractions. By the completion of this course, the student should be able to: - Understand the historical development and geographical location of Taiwan; - Appreciate the distinctive nature of Taiwan's food culture; - Discover the famous tourist attractions in Taiwan.	This course is designed as the introduction to the multifaceted beauty of Taiwan. This course will enable students to appreciate the various aspects of Taiwan's culture and famous tourist attractions. By the completion of this course, the student should be able to: - Understand the historical development and geographical location of Taiwan; - Appreciate the distinctive nature of Taiwan's food culture; - Discover the famous tourist attractions in Taiwan.	2	General Course	共同教育中心(博) General Education Center	SDG4、SDG11
2022	Undergraduate	B9M01024	1	T	人工智慧概論	Introduction to Artificial Intelligence	介紹人工智慧歷史、應用、技術及其它人工智慧相關議題。	The course introduces the history, application, and technology of artificial intelligence and related topics.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M012R6	1	A	巨量資料分析與應用(全球)	Big Data Fundamentals	本課程將針對大數據相關技術進行快速瀏覽，並培養學生數據分析思維，建立資料科學與大數據資料探勘的基本概念，結合產業案例的分析與實作，讓學生對於大數據的產業應用能建立概觀。	This course will provide a quick overview of Big Data related technologies, develop students' data analysis mindset, establish the basic concepts of data science and Big Data data exploration, and combine the analysis of industry case studies with practical work, so as to enable students to build up an overview of the industrial applications of Big Data.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG9、SDG9、SDG11、SDG11、SDG17、SDG17
2022	Undergraduate	B9M013XH	1	A	韓國電影中的近當代日韓互動(歷史)	Modern and Contemporary Japan-Korea Interactions in Korean Films	由多部電影等媒體，探討韓國的性別關係及其與相關文化之扣連。涉及韓國文化與我國文化差異之認識，故在課程領域別上與A1相近。 * 教學目標 本課程之教學目標在於，藉電影等媒體，培養並反省批判學生在我國既有的性別意識，藉由與東亞鄰國，韓國，在同與異方面的比較而能有綜合性的新認識。	This course explores gender relations in Korea and its connection to related cultures through a variety of films and other media. It involves the understanding of the differences between Korean culture and ours, and is therefore similar to A1 in terms of programme areas. * Teaching Objectives The teaching objectives of this course are to cultivate and reflect on students' existing gender awareness in Korea through the use of films and other media, and to develop a comprehensive understanding of the similarities and differences with our East Asian neighbour, Korea.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10、SDG16、SDG17
2022	Undergraduate	B9M01ZBM	1	A	中國社會史(歷史)	History of Chinese Society	本課程旨在透過數種不同性質與模式的社會運動，呈現傳統中國社會中的四民大眾對生存環境不滿而產生的反抗行動或自力救濟行為。同學可因此對若干個案有較深入地了解，並藉此吸取經驗，以為檢視當今社會運動的參考。	This course aims to present, through a number of social movements of different natures and modes, the acts of resistance or self-help of the masses of the four peoples of traditional Chinese society, who were dissatisfied with their living environment. Students will be able to gain a deeper understanding of some of these cases and learn from their experiences as a reference for examining contemporary social movements.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG11、SDG16
2022	Undergraduate	B9M01ZDB	1	B	海洋考古(人格)	The Maritime Archaeology	1、配合教育部海洋人文教育的推廣，強化同學海洋史知識。 2、近來政府開始重視水下文化資產，並通過水下文化資產保存法，本課程即是要讓同學瞭解世界各國以至臺灣其海洋考古發展歷程與成果，並利用海洋考古成果說明該地區之海洋文明。 3、做為研究海洋文化的眾多分支學科之一，海洋考古涉及古代人類創造海洋文化的物質文化遺存，透過它可以讓我們多一個管道來瞭解海洋文明發展歷程。 4、海洋考古成果可重新建構、驗證、修正、以及豐富海洋歷史文化本身，因此在海洋教育逐漸被政府當局重視之際，希冀透過本課程，帶領同學以海洋考古的角度以及對於海洋文明的進一步瞭解，來強化自己的海洋人文知識與海洋史觀。 5、從知海到親海到利用海洋，這是身為海島子民必須要認真面對的重要課題，本課程希冀能誘發同學對海洋的關注。 6、希冀引發同學對海洋考古產生興趣，成為臺灣海洋考古隊的生力軍。	1. This course is designed to strengthen students' knowledge of marine history in line with the Ministry of Education's promotion of marine humanities education. 2. Recently, the government has begun to pay attention to underwater cultural assets and has passed the law on the preservation of underwater cultural assets. The purpose of this course is to enable students to understand the development process and achievements of marine archaeology in various countries around the world as well as in Taiwan, and to make use of the achievements of marine archaeology to illustrate the marine civilisation of the region. 3. As one of the many subdisciplines in the study of marine culture, marine archaeology involves the material and cultural heritage of ancient mankind's creation of marine culture, through which we can have an additional channel to understand the development of marine civilisation. 4. The results of marine archaeology can reconstruct, verify, revise, and enrich the history and culture of the sea itself. Therefore, at a time when marine education is gradually being taken seriously by the government, we hope that this course will lead students to strengthen their knowledge of marine humanities and the concept of maritime history from the perspective of marine archaeology and a better understanding of marine civilisation. 5. From knowing the sea to being close to the sea to using the sea, this is an important issue that we as sea islanders must seriously face, and this course hopes to induce students to pay attention to the sea. 6. We hope that this course will stimulate students' interest in marine archaeology and help them to become a member of Taiwan's marine archaeological team.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZFV	1	A	卓越大師講座(民主)	Lectures of Excellent Masters	在社會上有許多生活藝術家，他們的社會地位是有目共睹的。他們對生命有著獨到的品味，對社會能明察秋毫、能發表真知灼見，對百姓有悲天憫人的情懷。然而這些生活大師或許無法到校定期上課，透過「卓越大師講座」的邀請，可以讓學生及社區民眾親炙大師，感受生活於藝術、藝術於生活的態度，進而體會人生的價值、開拓通達的視野。	There are many life artists in our society and their social status is obvious to all. They have a unique taste for life, a discerning eye for society, and a compassionate heart for the people. However, these masters of life may not be able to come to the school to give regular lectures. Through the invitation of the "Distinguished Masters Lecture", students and the community can get to know the masters personally, experience the attitude of life in art and art in life, and then realise the value of life and open up a broader vision.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4
2022	Undergraduate	B9M01ZFX	1	A	創業與管理(全球)	Enterprise and Management	創業與管理課程，旨在使學生瞭解如何運用所學，掌握產業發展趨勢，結合社會資源，並邀請產業界知名企業家分享實務經驗，逐步引導學生培養創業之各項關鍵能力，進而使學生具備創業及企業管理之概念。	The Entrepreneurship and Management Programme aims to enable students to understand how to apply what they have learnt, to grasp the trends of industry development, to integrate social resources, and to invite famous entrepreneurs in the industry to share their practical experiences, so as to gradually guide students to cultivate key entrepreneurial skills, and then equip them with the concepts of entrepreneurship and business management.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG9
2022	Undergraduate	B9M01ZIY	1	A	臺灣海洋巡護政策與經驗之永續經營(全球)	Sustainable Development of Marine Patrols Protects Policies and Experience in Taiwan	配合時事與海洋巡護案例，使學生能夠初步了解我國海巡署從前至今之海洋巡護政策的變遷、各類巡護設施與任務職責所在，並輔以實際執行海巡勤務的方式與法源依據，堆砌其具備對海巡任務執掌、法規、科技、勤務管理等基本素養；其次，藉由海洋巡護的歷年經典案例之經驗，介紹我國於執行上之永續經營方針，以使學生除認知基礎海洋事務法令智能外，能對我國海洋巡護的執行方式與國際事務處理上能夠有所知悉，使其未來如欲投入海巡相關職場時，能對基礎實務問題有所認知與應用，並拓展未來生涯規劃的基礎。	In conjunction with current events and marine patrol cases, students will be able to have a preliminary understanding of the changes in the marine patrol policy of the National Coast Guard from the past to the present, the various types of patrol facilities and duties and responsibilities, supplemented by the actual implementation of marine patrol duties and legal basis, so as to build up their basic qualities in the enforcement of marine patrol duties, regulations, science and technology, and duty management; and secondly, by means of the experience of the classic cases of the marine patrol in the past, to introduce the sustainable management principle of the implementation of the National Marine Patrol. Secondly, through the experience of classic cases in the past years of ocean patrol, the course introduces our country's sustainable management policy in the implementation of the law, so that students can not only know the basic law and intelligence of ocean affairs, but also know the implementation method of our country's ocean patrol and international affairs, so that if they want to join the career related to the ocean patrol in the future, they can know and apply the basic practical issues, and expand the basis of their future career planning.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG11
2022	Undergraduate	B9M01ZJS	1	A	創業育成實務(全球)	Entrepreneurship Education and Incubators	本課程係本校執行教育部資訊及科技教育司「智慧生活在地創新與企業育成人才培育平臺推動計畫」之產學交流課程。主要是透過創新的雙層三明治式課程模式，導入智慧生活科技，鼓勵創新教學方法，強調做中學（learning by doing）、場域體驗、服務學習、專題實作以及產業應用場域實習，協助大學發展創新的教學模式，培養學生以人為本之創新能力；另一方面，則借重大學所具有之專業、研發人才與能量，透過智慧生活科技與服務的導入或創新，推動大學發展微型企業與社會企業的人才培育機制，進而提升在地創新創業的潛力與量能，以帶動地方發展與增進就業機會，實踐大學的社會責任。 培養學生具有創新思維與國際化的就業力和創業力，並邀請產業界企業家授課，有效發揮海洋智能結合當代產業步調，發展海洋大學學生獨特的海洋在地產業創新創業潛力與量能。	This course is an industry-academia exchange programme under the "Smart Living Local Innovation and Enterprise Nurturing Talent Cultivation Platform Promotion Project" of the Information and Technology Education Department of the Ministry of Education. The main purpose of this programme is to assist universities in developing innovative teaching modes and cultivating students' human-centred innovative abilities through an innovative two-tier sandwich-style curriculum model, introducing smart living technologies and encouraging innovative teaching methods, emphasising learning by doing, field experiences, service learning, thematic practical work and industrial application field internships, and, on the other hand, making use of professional expertise in major universities, On the other hand, by leveraging the professional, research and development talents and energy of the University, the University will promote the development of micro-enterprise and social enterprise talent cultivation mechanisms through the introduction or innovation of intelligent living technologies and services, and then enhance the potential and capacity of local innovation and entrepreneurship to promote local development and increase employment opportunities, thus fulfilling the social responsibility of the University. Cultivate students with innovative thinking and international employability and entrepreneurship, and invite industrial entrepreneurs to teach courses, effectively develop marine intelligence combined with the pace of contemporary industries, and develop the unique marine local industry innovation and entrepreneurship potential and capacity of Ocean University students.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZKY	1	A	原創電影數位音樂音效設計製作〈美學〉	Digital Sound, Music and Film Production	1.發展學生數位音效理論認知。 2.發展學生數位音樂原創概念認知。 3.培養學生數位音效專業技術。 4.培養學生數位音效環境製作應用化模擬技術。	1. to develop students' knowledge of digital sound theory. 2. to develop students' knowledge of original concepts in digital music. 2. to develop students' conceptual understanding of digital music originality. 3. to develop students' professional skills in digital sound effects. 3. to develop students' professional skills in digital audio. 4. to develop students' applied simulation skills in digital audio environment. 4. to develop students' application simulation skills in digital audio environment production.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG9、SDG12
2022	Undergraduate	B9M01ZKW	1	A	書法藝術〈美學〉	Art of calligraphy	認識書法，如何看懂書法，如何欣賞書法。書法跟文學的互相結合、表達文字之美與文化之傳承。書法與文學的互相輝映，書法藝術的完美形式與內容，所產生的效果，才是書法的內涵。	How to understand calligraphy, how to read calligraphy, how to appreciate calligraphy. Calligraphy and literature combine to express the beauty of words and cultural heritage. Calligraphy and literature reflect each other, the perfect form and content of the art of calligraphy, the effect produced is the connotation of calligraphy.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01024	1	Q	人工智慧概論	Introduction to Artificial Intelligence	簡紹人工智慧基本知識與概念，機器、深度學習發展概念、方法與基礎技術議題，以及人工智慧於各領域的應用與未來趨勢。	Briefly introduce the basic knowledge and concepts of artificial intelligence, the development concepts, methods and basic technical issues of machine and deep learning, as well as the application and future trends of artificial intelligence in various fields.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M012UX	1	A	性別文化與中國電影(人格)	Gender Culture and Chinese Films	關懷性別議題在一個男性中心的文化中受到不平等對待之情況。揭露中國文化與制度的性別意含與歧視，並使得父權文化體制的問題受到社會反思。	Concerns the unequal treatment of gender issues in a male-centred culture. It exposes the gender implications and discrimination of Chinese culture and institutions, and brings the issue of patriarchal culture to the forefront of social reflection.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5、SDG10
2022	Undergraduate	B9M013CB	1	A	臺灣美術與社會(美學)	Taiwan Art and Society	課程以日治前、後的臺灣美術為目標，探討本土藝術家於前者移民美術，和後者殖民美術的深耕與發展，再從日治臺灣美術看日本、西洋美術史，可發現臺灣透過日本來理解歐洲後期印象派以後的風尚，並能銜接對西洋美術的理解，進程探討臺灣現代與當代藝術與社會、區域的美學。(開放現場10位同學加簽)	The course is aimed at Taiwanese art before and after the Japanese rule, exploring the deep cultivation and development of local artists in the former immigrant art and the latter colonial art, and then looking at the history of Japanese and Western art from the perspective of Japanese-era Taiwanese art, we can find that Taiwan understands the styles of the late Impressionist period in Europe through Japan, and that it can connect to the understanding of Western art, and then further explore the aesthetics of modern and contemporary art in Taiwan in relation to the society and the region. (Open to 10 students for countersigning.)	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11
2022	Undergraduate	B9M013T9	1	B	傳播技能-媒體聲音表達專題(美學)	Communication Competencies-Speaking Voice Training Programs	媒體類型發展愈趨多元，從廣播、電視、網路影音、直播、電玩遊戲到新興媒體，「聲音」始終是內容呈現的關鍵元素之一；然而，廣播劇、廣告配音、戲劇、電玩遊戲配音、有聲書、新聞報導、節目主持、線上直播等，不同型態之媒體內容於有效傳播所需之聲音表情、說話表演、言說技巧、論述能力等，均涉及不同專業及聲音技巧運用，因此，「聲音」表達訓練至今一直是傳播亟需培養之基本且重要技能，也是非新聞傳播媒體相關科系學生，學習傳播技能最基礎且極具實用性之入門課程。 舉凡口語文字、圖片、影片、動畫、電玩遊戲，所涉旁白、配音、主持或解說表達，聲音表情是否自然、切合、順暢、生動，攸關內容製播最終呈現之品質，屬「美學與美感表達」領域。媒體聲音是「內容＋表情」，真實的聲音表情能使人產生共感，換言之，除內容傳遞訊息本質外，音質、音色、發聲、呼吸、音量、語調、段落、節奏等，亦相當程度影響媒體內容感染力之傳達，以及閱聽眾訊息接收效果。同學們即便不具傳播或媒體相關基礎課程之經驗背景者，亦可藉此課程認識、理解與想像，如何成為一名專業配音員、節目主持人或聲音表演者，培養於聲音媒體所需之傳播表達、美感美學、品味鑑賞能力與傳播媒體亟需之思辨敬業態度。即便未以專業聲音工作者為目標，當學習過程中，發現聲音的奧妙，能從聲音表情去認識自我、熟悉聲音表情運用與說話方式，培養自然、自信與流暢的言說及論述，更有助於具體提升日常及個人專業領域之溝通表達能力。 本課程目標在於培養學生對於數位匯流趨勢之媒體聲音產業生態現況及未來發展有所瞭解，訓練具備製播聲音媒介內容之技巧與專長，除啟發學生對媒體聲音創意設計及表達，更進一步具備聲音媒介內容企畫/製作/主持/配音/聲音表演等所需之條件與實務能力，得以靈活應用於其不同專業領域工作，開展相關潛力與傑出要件。	The development of media genres has become more and more diversified, from broadcasting, television, online video, live broadcasting, video games to new media, "voice" is always one of the key elements in the presentation of content; however, broadcasting dramas, advertisement dubbing, dramas, video game dubbing, audiobooks, news reporting, programme hosting, online live broadcasting, etc., the different types of media content in the effective dissemination of the required voice expression, speech performance, speech skills, etc. all involve different professions and the use of voice skills, The different types of media content require effective communication in terms of voice expression, speech performance, presentation skills, expository skills, and so on, all involving different professions and the use of voice skills. Therefore, "voice" expression training has always been a basic and important skill that needs to be cultivated in communication, and it is also the most basic and practical introductory course for non-journalism and communication media-related students to learn communication skills. Whether or not the voice expression is natural, appropriate, smooth and lively in spoken text, pictures, films, animations, video games, narration, voice-over, hosting or explaining is crucial to the quality of the final presentation of the content, which is in the field of "aesthetics and aesthetic expression". Media sound is "content + expression", and real voice expression can make people feel empathy. In other words, apart from the nature of the message conveyed by the content, the quality of sound, timbre, vocalisation, breathing, volume, intonation, paragraphing, and rhythm, etc., also have a considerable impact on the conveyance of infectiousness of the media content, as well as the effect of the audience's reception of the message. Even if students do not have a	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4

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2022	Undergraduate	B9M0149X	1	A	微生物與疾病((科技)	Microbes and diseases	使學生對造成人類疾病之微生物有更多認識，了解疾病的發生與傳播，提升健康維護與公共衛生意識。	This course aims to give a general understanding of microbial pathogens of human, infectious diseases, and disease transmission in a perspective of public science, which could help to enhance the awareness of public health.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG11
2022	Undergraduate	B9M014HS	1	A	日本電影中的反戰與人性 (民主)	Anti-War and Humanity in Japanese Movies	透過日本電影導演如何描繪日本人面對戰爭與反戰，刺激台灣大學生思考自身以及前人牽涉之相關歷史與政治責任問題。	Through the Japanese film director's portrayal of the Japanese people's confrontation with the war and its repercussions, it stimulates Taiwanese university students to think about their own and their predecessors' involvement in related issues of history and political responsibility.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG16、SDG17
2022	Undergraduate	B9M01ZBR	1	B	中國文化史(歷史)	History of Chinese Culture	使同學了解中國文化的起源與特質、思想的變遷與宗教發展、傳統政治的理想與實際、社會的型態與倫理、物質生活的成就與侷限、傳統科技與當代省思等單元的內容，深化同學對中國文化的認識，培養其文化意識與人文素養，增進其歷史思考的能力。	Students will learn about the origins and characteristics of Chinese culture, ideological changes and religious development, traditional political ideals and practices, social patterns and ethics, achievements and limitations of material life, traditional science and technology, and contemporary reflections, deepening their understanding of Chinese culture, cultivating their cultural awareness and humanistic qualities, and enhancing their ability to think historically.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG16
2022	Undergraduate	B9M01ZEO	1	A	電影詮釋與文化研究(美學)	Film Interpretation & Cultural Study	引導了解電影乃是一種社會實踐,並了解電影的生產與消費以及其快感與意義都是文化的作用。	To introduce an understanding of cinema as a social practice, and to understand that the production and consumption of cinema, as well as its pleasures and meanings, are all functions of culture.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10
2022	Undergraduate	B9M01ZHQ	1	A	基隆之美(人格)	The Beauty of Keelung City	透過對學校所在地基隆的自然、地理、人文、藝術等各方面的介紹，除認識當地的歷史文物之外，並引伸至環保、宗教、社會等議題，又著重採用美學觀念呈獻，是門結合鄉土、自然與美學的課程。藉著實地踏查體驗教學內涵，是門結合資料與實務的課程。	Through the introduction of the nature, geography, humanities, and arts of Keelung, where the school is located, the course not only learns about the history and heritage of the area, but also extends to environmental protection, religion, and society, and focuses on the presentation of aesthetics, making it a course that combines the countryside, nature, and aesthetics. It is a course that combines the concepts of the countryside, nature and aesthetics. The course is a combination of information and practice, with on-site visits to experience the content of the teaching.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11
2022	Undergraduate	B9M01ZJJ	1	A	氣象與災變天氣(自然)	Meteorology and Severe Weather	本課程旨在藉由全球環境問題和對策、氣候變遷、全球暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。 工業革命以來，全球的工業化和都市化導致嚴重的環境問題，而全球環境變遷，其原因可能是自然的，亦可能是人為的。本課程旨在藉由全球環境問題和對策、氣候變遷、全球溫暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。同時藉由學生學習目標的建立，環保相關新聞媒體的閱讀和觀賞，環保論壇相關議題的討論，校園、社區、河川和海洋環保議題的分組探索實作，以及環保議題綜合報告，培育現代公民應有之科學、倫理、民主、美學與媒體素養能力，以期邁向地球永續發展。 台灣的各季節，即使在同一時間的不同地區，也可以有很不一樣的天氣。在各個季節裡均有導致人民生命財產損失的災變天氣，如夏秋的颱風、五六月的梅雨和導致的豪雨、冬季的寒流以及春季的乾旱等，是造成災害的罪魁禍首。台灣雖小，但是氣象萬千，因為台灣位在最大海洋太平洋與最大陸地歐亞大陸交界地區，深受海洋和大陸的雙重影響；又位於副熱帶地區，深受由北方而來的中緯度天氣系統和由南方而來的熱帶天氣系統的雙重影響；又位於全球最活躍的季風區，深受冬季東北季風和夏季西南季風的雙重影響；又有縱貫南北且高聳的中央山脈，深受其地形效應的影響。 所以在這麼多重因素的影響和複雜的相互作用之下，四季分明、天氣多變、氣象萬千、災變天氣頻	Provide student basic concept of meteorology and environment. including climate change , global warming , sustainable development. climate change and severe weather of Taiwan. and then to love earth and Taiwan in final. The teaching objectives: understand the basic concepts of meteorology and the main severe weather in Taiwan(typhoon, drought, cold wave,mud-flow..etc) Talk about the causes and impact of related disasters, Establish disaster prevention concepts from the aspects of usual preparations disaster response, and post-disaster reconstruction；Build risk manage capabilities in the fact of severe crises.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG2、SDG4、SDG7、SDG7、SDG11、SDG11、SDG13、SDG13、SDG15、SDG17、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZBW	1	B	近代中外關係史（歷史）	History of Modern Sino--foreign Relationship	自鴉片戰爭以降，中國遭遇五千年未有之大變局。傳統中國自成體系的天下觀，與西方列國制度下的國際觀，發生碰觸與摩擦。經由一連串的戰爭與外交，中國被迫走出原有的世界，承認西方國際法觀點，成為條約體系的一份子。本課程目標即在透過簡明扼要的史實陳述，鋪陳出近代以來中國與西方國家接觸的真實歷程。 本課程為一學期課程，著重晚清時期的中外關係，探究列強如何在將中國納入條約體系的同時，樹立在華的特權。	Since the Opium War, China has suffered a great change not seen in 5,000 years. The traditional Chinese view of the world as a self-contained system came into contact and friction with the international view of the Western powers. After a series of wars and diplomacy, China was forced to step out of the original world, recognise the Western view of international law and become a member of the treaty system. The objective of this course is to present, through concise historical facts, the true history of China's contact with the West during the modern era. This one-semester course focuses on Sino-foreign relations during the late Qing dynasty, and explores how the powers established their privileges in China while incorporating China into the treaty system.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16、SDG17
2022	Undergraduate	B9M01ZDB	1	A	海洋考古(人格)	The Maritime Archaeology	1、配合教育部海洋人文教育的推廣，強化同學海洋史知識。 2、近來政府開始重視水下文化資產，並通過水下文化資產保存法，本課程即是要讓同學瞭解世界各國以至臺灣其海洋考古發展歷程與成果，並利用海洋考古成果說明該地區之海洋文明。 3、做為研究海洋文化的眾多分支學科之一，海洋考古涉及古代人類創造海洋文化的物質文化遺存，透過它可以讓我們多一個管道來瞭解海洋文明發展歷程。 4、海洋考古成果可重新建構、驗證、修正、以及豐富海洋歷史文化本身，因此在海洋教育逐漸被政府當局重視之際，希冀透過本課程，帶領同學以海洋考古的角度以及對於海洋文明的進一步瞭解，來強化自己的海洋人文知識與海洋史觀。 5、從知海到親海到利用海洋，這是身為海島子民必須要認真面對的重要課題，本課程希冀能誘發同學對海洋的關注。 6、希冀引發同學對海洋考古產生興趣，成為臺灣海洋考古隊的生力軍。	1. Respond to the campaign of marine humanistic education launched by Ministry of Education, and enhance the students' knowledge about the marine history. 2. In recent years, the Government starts to value the underwater cultural heritage and has drafted the Law on the Conservation of Underwater Cultural Heritage. The purpose of this course is to make the students know the development process and achievements of the marine archeology in Taiwan and other countries, and to use the achievements of marine archeology to explain the marine civilization of that area. 3. As a branch of the marine cultural studies, the marine archeology involves the material heritage of marine culture created by the ancient human race, through which we can have another channel to understand the development process of marine civilization. 4. The achievements of marine archeology can reconstruct, verify, revise and enrich the marine historic culture. Thus, with the marine education being increasingly valu	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8
2022	Undergraduate	B9M01ZFA	1	A	海洋文化與城市歷史(歷史)	Ocean Culture & City History	海洋文化與城市歷史是一門新興的綜合性學科，既包含了人文科學，也包含了社會科學與基礎理論學科，具有重要的學術價值和發展潛力。本課程旨在幫助修課同學瞭解海洋文化對城市歷史的影響，包括歷史的沿革、事件等等，裨益同學了解海洋國家的種種問題，使學生明白海洋文化的多樣性，進而凝聚未來從事文創或觀光的「軟實力」。 補課方式:每堂課延長6分鐘。	Maritime Culture and Urban History is an emerging integrative discipline that encompasses humanities, social sciences, and basic theoretical disciplines, and has significant academic value and development potential. This course aims to help students understand the impact of maritime culture on urban history, including historical development, events, etc. It will also help students understand the problems of maritime countries, and enable them to understand the diversity of maritime culture, so that they can build up the "soft power" for engaging in cultural innovation or tourism in the future. Classes will be extended by 6 minutes per class.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG11、SDG11、SDG14、SDG14
2022	Undergraduate	B9M01ZLK	1	A	新能源與環境治理(科技)	New Energy and Environmental Governance	1.使學習者了解全球氣候變遷、環境治理、新能源發展與技術、各國新能源發展經驗與限制等知識，並反思台灣的發展經驗，引導學生從「科技的社會形塑」觀點，去探討與思辯綠能科技發展與人類社會的互動影響； 2.使學習者於期末針對各國新能源發展提出個案報告（日本、德國、丹麥、英國、美國、中國大陸、南韓、印度、法國、巴西...等國家），提升學生對於未來就業職場及綠能產業技術實務的理解與認識。	1. To enable learners to understand global climate change, environmental governance, new energy development and technology, and the experience and limitations of new energy development in various countries, and to reflect on Taiwan's development experience, and to guide students to explore and debate the interaction between the development of green energy technology and the human society from the perspective of the social shaping of technology. 2. To enable learners to present case reports on new energy development in various countries (Japan, Germany, Denmark, the United Kingdom, the United States, China, South Korea, India, France, Brazil, etc.) at the end of the semester, so as to enhance students' understanding of the future job market and the technical practice of the green energy industry.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG7、SDG13
2022	Undergraduate	B9M01ZLU	1	A	書法藝術進階(美學)	Art of Advanced Calligraphy	書法是人類最精微深妙的書寫藝術，需要學習。欣賞書法最好的方式，自己動手寫。從臨摹開始，建立基本的概念與書法技法，很快理解書法的美妙在哪裡。 只有透過臨摹，才能真正了解經典作品的精微所在，因為臨摹的過程，就是尋找、理解古人書法寫字的技術、美學所在的深度閱讀。	Calligraphy is the most subtle and profound art of human writing, which needs to be learnt. The best way to appreciate calligraphy is to write it yourself. Starting from copying, you can establish the basic concepts and techniques of calligraphy, and quickly understand the beauty of calligraphy. Only through copying can one truly understand the subtleties of classic works, because the process of copying is a deep reading to find and understand the techniques and aesthetics of ancient calligraphy.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01024	1	O	人工智慧概論	Introduction to Artificial Intelligence	讓學生熟悉人工智慧技術的發展現況，以及未來AI在不同產業應用的趨勢與挑戰	Familiarize students with the current development of artificial intelligence technology, as well as the future trends and challenges of AI applications in different industries	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M013N8	1	A	當代傳播問題(科技)	Contemporary Communication Issues	本課程理論與實務並重，引導學生對社會重大傳播議題之關心與認識，熟悉當代傳播生態，進而檢視當代傳播問題，具備思考判斷能力。授課教師依據重大或即時傳播議題，隨時更新調整編製教材，使修課同學藉由反思當代傳播所面臨課題，同步想像未來傳播領域與產業趨勢，在新科技發展、訊息高速傳播下，如何創新應變，培養於科技與社會領域之傳播/資訊素養、多元視野、溝通表達、思考判斷及行動力，並且能主動發現新型態傳播現象與網路社群媒體所涉關鍵議題。本課程不以臺灣為限，同步探討全球當代傳播問題，以提升學生國際宏觀視野。	This course focuses on both theory and practice, guiding students to care about and understand major communication issues in society, to become familiar with the contemporary communication ecosystem, to examine contemporary communication issues, and to acquire the ability to think and judge. Teachers will update and adjust the teaching materials according to major or current communication issues, so that students can reflect on the problems faced by contemporary communication, simultaneously imagine the future trends in the field of communication and the industry, and how to innovate and respond to the development of new technologies and high-speed dissemination of information, so as to cultivate communication/information literacy, diversified perspectives, communication and expression, thinking and judgement, and the power of action in the field of science and technology and the social field, and to be able to proactively discover They will also be able to proactively identify new forms of communication phenomena and key issues related to online social media. This programme is not limited to Taiwan, but also explores global contemporary communication issues to enhance students' international macro-vision.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG9、SDG10、SDG17
2022	Undergraduate	B9M0149U	1	A	韓國的性別意識與文化變遷(人格)	The Gender Consciousness and Cultural Change in South Korea.	由多部電影等媒體，探討韓國的性別關係及其與相關文化之扣連。涉及韓國文化與我國文化差異之認識，故在課程領域別上與A1相近。 * 教學目標 本課程之教學目標在於，藉電影等媒體，培養並反省批判學生在我國既有的性別意識，藉由與東亞鄰國，韓國，在同與異方面的比較而能有綜合性的新認識。	This course explores gender relations in Korea and its connection to related cultures through a variety of films and other media. It involves the understanding of the differences between Korean culture and ours, and is therefore similar to A1 in terms of programme areas. * Teaching Objectives The teaching objectives of this course are to cultivate and reflect on students' existing gender awareness in Korea through the use of films and other media, and to develop a comprehensive understanding of the similarities and differences with our East Asian neighbour, Korea.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG5、SDG10
2022	Undergraduate	B9M014AD	1	A	海洋資源的開發與保育(科技)	Exploitation and Conservation of Ocean Resources	此課程並非學習物理、化學、地質、生物海洋方面的海洋學，然而它聚焦在開發並保育來自海洋的可再生及不可再生的資源。由於課程開始會簡介海洋學，因此不須要先修過海洋方面的課程即可來修習本課程。接着學生會學習到海洋動態，如水文與氣象的變化等和人為活動，如捕魚、航海、採礦等之間的相互作用。人為活動對海洋環境及資源的影響會被揭示，而且據此提出適當的政策及管理經營策畫，是以將負面衝擊極小化來達到資源的永續利用以及人與海洋之間的和諧。	This course is not Oceanography which mainly looks at the physical, chemical, geological and biological aspects of the ocean. However it focuses on the exploitation and conservation of the renewable and non-renewable resources from the ocean. Since a brief introduction to Oceanography will be covered at the beginning so that no prerequisite course on ocean is required. Students will then learn about the interactions between ocean dynamics, such as hydrological and climatic change and human activities, such as fishing, navigation and mining, etc. Influence of human activities on ocean’s environment and resources will be revealed and accordingly, proper policy and management scheme will be proposed to minimize the adverse impact so that sustainable use of the resources and harmony between human and ocean will be achieved. After 8 week’s lecture, students will be divided into 16 groups to prepare for their seminar presentations on various topics of ocean resource management during the res	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG6、SDG13、SDG14
2022	Undergraduate	B9M014HY	1	A	世界遺產導論(人格)	The introduction of World Heritage	《保護世界文化和自然遺產公約》（Convention Concerning the Protection of the World Cultural and Natural Heritage，CCPWCNH），就締約國數量而言，乃國際上影響力最大的條約之一（193國締約，2019年數據），旨在保護具有「傑出普遍價值」（outstanding universal value）的場址。本課程以世界遺產作為主軸，從定義開始，續而由淺入深地從國際建制闡述至包括政治、法律與文化等面向，並聚焦在當前面臨的威脅與困難。此外，本課程亦將提供許多文明圈的世界遺產，作為個案研究與探討，期盼使學生認識不同文化，開拓視野，浸濡全球多元文化的格局。最後，雖然礙於國際政治現實，我國遲遲未能正式參與世界遺產公約，但文化部也從善如流，以未雨綢繆的正面心態，遴選具有傑出普遍價值的適格場址，並賡續推廣之，為奠定立國基石而努力，因此本課程	The Convention Concerning the Protection of the World Cultural and Natural Heritage (CCPWCNH) aims to protect cultural and natural sites of outstanding universal value. The CCPWCNH is one of the most influential treaties, with 193 States Parties in 2019. This course begins with the definition of World Heritage, then goes on to the international regime of it. The course will also provide numerous case studies from all over the world, and it provides students with the intellectual resources to further their academic development. Finally, the regime for the protection of potential World Heritage in Taiwan will be focused.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG6、SDG8、SDG9、SDG11、SDG13、SDG14、SDG15、SDG16、SDG17

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2022	Undergraduate	B9M01Z5Y	1	A	海港城市與文化(人格)	Seaport City and Its Culture	本課程旨在透過對臺灣與中國不同海港城市的歷史發展與文化內涵之說明，呈現海港城市因不同歷史經驗形塑出之多元文化特色與包融整合風格；期望學生由此掌握近代外力入侵造成開港之城市，其以往狀況與後來發展情形，並比較不同海港城市的同質性與差異性，作為現況觀察及未來展望之參考依據。課程設計主要選擇基隆、上海兩大城市為標的，將兩個海港城市之歷史發展過程，及該城市最重要之社會與文化內容予以詳細介紹及深入分析說明，顯示其重要歷史意涵與多元文化價值觀。	This course aims to illustrate the historical development and cultural connotations of different harbour cities in Taiwan and China, and to present the multicultural characteristics and inclusive and integrated styles of harbour cities shaped by different historical experiences. It is expected that students will learn about the past and future development of the cities that opened their harbours as a result of the invasion of foreign forces in the modern era, and compare the homogeneity and differences of different harbour cities as a basis for observation of the present situation and future outlook. It also compares the similarities and differences of different harbour cities as a reference for observation of the current situation and future prospects. The course design mainly selects two major cities, Keelung and Shanghai, as its targets, and introduces the historical development process of the two harbour cities, as well as the most important social and cultural contents of the two cities in detail and analyzes them in depth, so as to show their important historical connotations and multicultural values.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11
2022	Undergraduate	B9M01Z64	1	2	海洋科學概論	Introduction to Oceanography	本課程針對非海洋科學主修之大一學生，以描述性講授與宏觀的角度，簡介海洋的物理、化學性質、與海洋地質及生物。期能使學生對海洋科學有概括性認識與了解。	This class aims to descriptively introduce the general physics, chemistry, geology, and biology of the ocean to non-ocean science major freshman undergraduate students, and brings an overview of the oceanography as well to help the students understand the fundamentals of the ocean sciences.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG13、SDG14、SDG14、SDG17、SDG17
2022	Undergraduate	B9M01ZCM	1	A	性別議題與親密關係發展(人格)	Gender Issues and Close Relationship Development	1.增加對性別議題的敏感度 2.探討親密關係發展的相關議題 3.從性別角色思考兩性差異的相關理論與內容 4.探討性別關係中的特殊議題—同性戀、網路戀情、性騷擾、約會強暴	1. to increase sensitivity to gender issues 2. to explore issues related to the development of intimate relationships 3. to consider the theories and contents of gender differences in terms of gender roles 4. to explore the special issues in gender relationship - homosexuality, internet romance, sexual harassment, dating rape	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG5、SDG16
2022	Undergraduate	B9M01ZCZ	1	A	臺灣文化史(歷史)	Cultural History of Taiwan	生於斯，長於斯，不可不知台灣事。本課程旨在幫助修課同學瞭解四百年台灣歷史的梗概，包括重要人物、事件以及歷史的沿革與重要性，裨益同學分析當前台灣所面臨的國內和國際的種種問題。本課程屬於台灣歷史的基礎訓練課程，主要提供台灣歷史與文化的知識授與學生，旨在幫助學生瞭解台灣文化，進而肯定自身文化的優越性。增進學生對於台灣文化發展的瞭解，透過各個不同時期的歷史文化，使學生明白台灣文化的多樣性，進而凝聚「軟實力」的向心力量。	Born and raised in Taiwan, one must not be ignorant of Taiwan. This course is designed to help students understand an overview of 400 years of Taiwanese history, including important people and events, as well as the evolution and significance of history, and to help students analyse the domestic and international issues facing Taiwan at the present time. This course is a basic training programme in Taiwan history, which provides students with knowledge of Taiwan's history and culture, and aims to help students understand Taiwan's culture and to affirm the superiority of their own culture. It also aims to enhance students' understanding of Taiwan's cultural development, and through the history and culture of different periods, to make students understand the diversity of Taiwan's culture, and thus to build up the centripetal force of "soft power	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3
2022	Undergraduate	B9M01ZEV	1	A	戰爭、武器、流亡詩人與全球公民(科技)	War, Weapons, Poets in Exile & Global Citizenship	戰爭與槍炮的傳播與管制已成國際重視的大議題，尤其是武器科技的發展大大改變了現代戰爭與戰略。本課程討論人類如何由早期的武器發展至今天的資訊戰與空天，空海一體戰。但許多媒體仍以渲染戰爭為重點，本課程串連文獻與戰爭、武器，提升學生對武器科技與和平反思的重視，增進對全球公民的認識。。	The spread and control of war and firearms has become a major international issue, and the development of weapons technology in particular has dramatically changed modern warfare and strategy. This course discusses how mankind has evolved from early weaponry to today's information warfare and integrated air, space, and naval warfare. However, many media outlets still focus on war. This course connects literature to war and weapons, raising students' awareness of the importance of weapons technology and reflection on peace, as well as increasing their understanding of global citizenship.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG16、SDG17
2022	Undergraduate	B9M01ZFF	1	B	性別平權教育(民主)	Education of Gender Equality	（1）.瞭解性別平權的重要性，同時藉由性別平權發現人權的多樣面貌，以及在全球化脈絡下思考如何看待性別及其轉變。 （2）.透過多元評量方式評量學生的學習過程 （3）.透過願景工作坊養成學生批判、思考及創造能力	(1). Understanding the importance of gender equality, discovering the diversity of human rights through gender equality, and thinking about gender and its changes in the context of globalisation. (2). To assess students' learning process through multiple assessment methods. (3). To develop students' critical, reflective and creative skills through visioning workshops.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5
2022	Undergraduate	B9M01ZFZ	1	A	生涯規劃與投資理財(全球)	Life Planning & Investment Management	引導學生建立正面的人生觀及價值觀,過一個自己喜歡又對周遭有貢獻的人生.	Students will be guided to develop a positive outlook on life and values, and to lead a life that they enjoy and that contributes to their surroundings.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG2、SDG3、SDG4、SDG5、SDG9

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2022	Undergraduate	B9M01ZIR	1	A	漁村學習與公民行動(民主)	Learning and Civic Action of Fishing Viliage	課程目標為： 1.培養學生對海洋人文相關議題的關注與公共事務參與的態度與熱情 2.培養學生獨立思考及將知識轉化為具體行動策略之能力 3.培養學生具備民主機制操作的能力 4. 培養學生成為一個具有行動力的海洋公民	The objectives of the programme are: 1. to cultivate students' concern for issues related to marine humanities and their attitude and enthusiasm for participation in public affairs 2. to develop students' ability to think independently and to translate knowledge into concrete action strategies 3. to develop students' ability to operate in a democratic mechanism. 4. to develop students into active ocean citizens.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG14、SDG17
2022	Undergraduate	B9M013CE	1	A	物聯網實務應用(科技)	Practices for Internet of Things	本課程旨在引導同學了解物聯網的架構，並學習以物聯網的控制裝置(本課程會以Raspberry作為練習裝置)製作出可控制各種感應器的系統，再搭配網站與資料庫、Restful API、App, 製作出可透過手機遙控的物聯網系統，該系統可以依照修課同學的科系訂定題目，結合不同系所的主題進行發揮。	With control system from Internet of Things, this class will guide the attendee to create a practical system. In this class, Raspberry will be the target system, besides, web, database, Restful API will also be applied as control system. Then we will have a practical system in the end of the class, attendee can combine the subjects in their focus to define the final project.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG7、SDG7、SDG10、SDG10、SDG13、SDG13、SDG17、SDG17
2022	Undergraduate	B9M013T9	1	A	傳播技能-媒體聲音表達專題(美學)	Communication Competencies-Speaking Voice Training Programs	媒體類型發展愈趨多元，從廣播、電視、網路影音、直播、電玩遊戲到新興媒體，「聲音」始終是內容呈現的關鍵元素之一；然而，廣播劇、廣告配音、戲劇、電玩遊戲配音、有聲書、新聞報導、節目主持、線上直播等，不同型態之媒體內容於有效傳播所需之聲音表情、說話表演、言說技巧、論述能力等，均涉及不同專業及聲音技巧運用，因此，「聲音」表達訓練至今一直是傳播亟需培養之基本且重要技能，也是非新聞傳播媒體相關科系學生，學習傳播技能最基礎且極具實用性之入門課程。 舉凡口語文字、圖片、影片、動畫、電玩遊戲，所涉旁白、配音、主持或解說表達，聲音表情是否自然、切合、順暢、生動，攸關內容製播最終呈現之品質，屬「美學與美感表達」領域。媒體聲音是「內容＋表情」，真實的聲音表情能使人產生共感，換言之，除內容傳遞訊息本質外，音質、音色、發聲、呼吸、音量、語調、段落、節奏等，亦相當程度影響媒體內容感染力之傳達，以及閱聽眾訊息接收效果。同學們即便不具傳播或媒體相關基礎課程之經驗背景者，亦可藉此課程認識、理解與想像，如何成為一名專業配音員、節目主持人或聲音表演者，培養於聲音媒體所需之傳播表達、美感美學、品味鑑賞能力與傳播媒體亟需之思辨敬業態度。即便未以專業聲音工作者為目標，當學習過程中，發現聲音的奧妙，能從聲音表情去認識自我、熟悉聲音表情運用與說話方式，培養自然、自信與流暢的言說及論述，更有助於具體提升日常及個人專業領域之溝通表達能力。	The development of media genres has become more and more diversified, from broadcasting, television, online video, live broadcasting, video games to new media, "voice" is always one of the key elements in the presentation of content; however, broadcasting dramas, advertisement dubbing, dramas, video game dubbing, audiobooks, news reporting, programme hosting, online live broadcasting, etc., the different types of media content in the effective dissemination of the required voice expression, speech performance, speech skills, etc. all involve different professions and the use of voice skills, The different types of media content require effective communication in terms of voice expression, speech performance, presentation skills, expository skills, and so on, all involving different professions and the use of voice skills. Therefore, "voice" expression training has always been a basic and important skill that needs to be cultivated in communication, and it is also the most basic and practical introductory course for non-journalism and communication media-related students to learn communication skills. Whether or not the voice expression is natural, appropriate, smooth and lively in spoken text, pictures, films, animations, video games, narration, voice-over, hosting or explaining is crucial to the quality of the final presentation of the content, which is in the field of "aesthetics and aesthetic expression". Media sound is "content + expression", and real voice expression can make people feel empathy. In other words, apart from the nature of the message conveyed by the content, the quality of sound, timbre, vocalisation, breathing, volume, intonation, paragraphing, and rhythm, etc., also have a considerable impact on the conveyance of infectiousness of the media content, as well as the effect of the audience's reception of the message. Even if students do not have a	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4
2022	Undergraduate	B9M01ZBW	1	A	近代中外關係史（歷史）	History of Modern Sino--foreign Relationship	自鴉片戰爭以降，中國遭遇五千年未有之大變局。傳統中國自成體系的天下觀，與西方列國制度下的國際觀，發生碰觸與摩擦。經由一連串的戰爭與外交，中國被迫走出原有的世界，承認西方國際法觀點，成為條約體系的一份子。本課程目標即在透過簡明扼要的史實陳述，鋪陳出近代以來中國與西方國家接觸的真實歷程。 本課程為一學期課程，著重晚清時期的中外關係，探究列強如何在將中國納入條約體系的同時，樹立在華的特權。	Since the Opium War, China has suffered a great change not seen in 5,000 years. The traditional Chinese view of the world as a self-contained system came into contact and friction with the international view of the Western powers. After a series of wars and diplomacy, China was forced to step out of the original world, recognise the Western view of international law and become a member of the treaty system. The objective of this course is to present, through concise historical facts, the true history of China's contact with the West during the modern era. This one-semester course focuses on Sino-foreign relations during the late Qing dynasty, and explores how the powers established their privileges in China while incorporating China into the treaty system.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZCW	1	A	東亞海權發展與演變(科技)	Development and Change of Sea Powers in East Asia	控制海洋等於控制世界。古往今來，東亞海權爭奪，誰領風騷？蒙古鐵騎曾經橫掃歐亞大陸，無人敢攖其鋒，自信滿滿的蒙古人，不以陸上霸主為滿足，也曾建起巨艦、張帆邁向海洋。明朝鄭和下西洋時所率領的龐大海軍艦隊與貿易商隊，遠航至印度、阿拉伯半島，以至於東非，更是跨時代的創舉。鄭和的艦隊，無疑告訴世人，大明帝國是當時全世界最強大的海權國家。之後，隨著大航海時代的來臨，西方的歐洲人，擺脫陸路的重重限制，航向大海，來到東方，既追求商業利益，也競逐東亞海權的領導地位。從此，亞洲不再只是亞洲人的亞洲，新的東亞海權格局於焉開展：	Controlling the sea is tantamount to controlling the world. Throughout the ages, who has been the leader in the sea power struggle in East Asia? The Mongols had swept across the Eurasian continent and no one dared to take their place. The confident Mongols were not satisfied with land dominance, but also built huge ships and set sail to the sea. The huge naval fleet and trading fleet led by Zheng He during his voyage to India, Arabian Peninsula and even East Africa was an inter-generational innovation. Zheng He's fleet undoubtedly told the world that the Ming Empire was the most powerful maritime power in the world at that time. Later, with the advent of the Great Age of Sail, western Europeans, free from the heavy restrictions of land routes, sailed to the sea and came to the East, pursuing not only commercial interests, but also competing for the leadership of the East Asian sea power. From then on, Asia was no longer just for Asians, and a new pattern of East Asian seapower began:	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG17
2022	Undergraduate	B9M01ZEY	1	A	臺灣海洋史(歷史)	The Maritime History of Taiwan	一、海洋大學之教育宗旨，以海洋專業、海洋科技與人文三者並重，並期「立足海洋、面向全國、走向世界」。本課程教學目標為建立海洋教育所應有的人文基礎，另配合教育部海洋教育的推廣，強化同學海洋史知識。 二、海洋史的內容豐富，包括：貿易、航運、漁業、港口、造船，移民、海難、海神信仰、海洋產業等不同主題，涵蓋經濟史、交通史、科技史、國際關係、宗教信仰等研究領域。除了拓展同學的海洋史觀之視野外，並培養其海洋人文素養。 三、從知海到親海到利用海洋/關懷海洋。 四、海納百川.有容乃大的人格養成。 五、培養同學實踐社會責任的態度。	1. The educational objectives of the University of Oceanography are to place equal emphasis on marine professions, marine science and technology, and the humanities, and to be "based on the ocean, facing the whole country, and reaching out to the world". The goal of this course is to establish a humanistic foundation for marine education and to cooperate with the Ministry of Education's promotion of marine education to strengthen students' knowledge of marine history. 2. Marine history is rich in content, including trade, shipping, fisheries, ports, shipbuilding, immigration, maritime disasters, belief in Neptune, and maritime industries, and covers the fields of economic history, transport history, history of science and technology, international relations, and religious beliefs. In addition to expanding students' view of maritime history, the programme also aims to cultivate their marine humanistic qualities. 3. From knowing the ocean to being close to the ocean to using the ocean/caring for the ocean. 4. To cultivate the character of being tolerant of the sea. 5. to cultivate students' attitude towards social responsibility.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8
2022	Undergraduate	B9M013LY	1	A	海洋生態與全球變遷(自然)	Marine Ecology and Global Change	使學生了解海洋生態環境的種類與功能，以及全球變遷對海洋生態環境的衝擊。希望藉由培養學生知海、愛海的情操，進而啟發其投身海洋科學研究的熱情。	Students will learn about the types and functions of the marine ecosystem and the impact of global changes on the marine ecosystem. It is hoped that by cultivating students' love for the sea and knowledge of the sea, they will be inspired to devote themselves to marine science research.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG13、SDG14
2022	Undergraduate	B9M013N8	1	B	當代傳播問題(科技)	Contemporary Communication Issues	本課程理論與實務並重，引導學生對社會重大傳播議題之關心與認識，熟悉當代傳播生態，進而檢視當代傳播問題，具備思考判斷能力。授課教師依據重大或即時傳播議題，隨時更新調整編製教材，使修課同學藉由反思當代傳播所面臨課題，同步想像未來傳播領域與產業趨勢，在新科技發展、訊息高速傳播下，如何創新應變，培養於科技與社會領域之傳播/資訊素養、多元視野、溝通表達、思考判斷及行動力，並且能主動發現新型態傳播現象與網路社群媒體所涉關鍵議題。本課程不以臺灣為限，同步探討全球當代傳播問題，以提升學生國際宏觀視野。	This course focuses on both theory and practice, guiding students to care about and understand major communication issues in society, to become familiar with the contemporary communication ecology, to examine contemporary communication issues, and to acquire the ability to think and judge. Teachers will update and adjust the teaching materials according to major or current communication issues, so that students can reflect on the problems faced by contemporary communication, simultaneously imagine the future trends in the field of communication and the industry, and how to innovate and respond to the development of new technologies and high-speed dissemination of information, and to cultivate communication/information literacy, diversified perspectives, communication and expression, thinking and judgement, as well as the power of action, and be able to proactively discover They will also be able to proactively identify new forms of communication phenomena and key issues related to online social media. The programme is not limited to Taiwan, but also explores global contemporary communication issues to enhance students' international macro-vision.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG9、SDG10、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M014E4	1	A	電影中的南北韓與脫北問題(歷史)	South and North Korea and Problems of defectors in Films	本課程教學目標在於深刻理解南北韓分裂的歷史背景涉及之政治經濟、族群關係與心理狀況。陳總統水扁於中華民國89年10月13日電賀南韓總統金大中獲諾貝爾和平獎，本課程藉此嘗試反思若干台灣海峽兩岸衝突與交流問題。	The goal of this course is to gain a deeper understanding of the historical background of the division of North and South Korea in terms of its political and economic aspects, as well as ethnic relations and psychological conditions. President Chen Shui-bian congratulated South Korean President Kim Dae-jung on his award of the Nobel Peace Prize on 13 October 1989, and this course is an attempt to reflect on some of the issues of conflict and exchange between the two sides of the Taiwan Strait.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10、SDG16、SDG17
2022	Undergraduate	B9M014IP	1	A	藝術敘事力（USR）（美學）	Art Narrative（USR）	二、教學目標 1.場域的移動教學外，透過藝術的觀察和實踐進行跨領域思考與表達。 2.「取之於自然用之於自然」：裝置藝術的里山、里海倡議。 3.透過裝置藝術表達議題；利用綜合媒材的藝術創作為議題敘事力。 4.培養大學生的社會責任和聯合國「永續發展目標」（SDGs）素養。 5.課程融合美感、生態和公民教育。	Teaching Objectives 1. To conduct cross-disciplinary thinking and expression through the observation and practice of art outside of mobile teaching. 2. "Taking from nature and using it for nature": the installation art of Satoyama and Caspian Sea initiative. 3. To express issues through installation art; to use mixed media art creation as a narrative force for issues. 4. Cultivate social responsibility and the United Nations' Sustainable Development Goals (SDGs) among university students. 5. The programme integrates aesthetics, ecology and civic education.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG11、SDG14、SDG14、SDG15、SDG15
2022	Undergraduate	B9M01ZBH	1	C	政治變遷與國家發展(全球)	Political Change and National Development	1、培養學生對憲法理論具基本認識。 2、提昇學生了解台灣政治變遷與國家發展，培養立足台灣、關懷社會、宏觀全球之胸襟與視野剖析國情與世局之能力。 3、強化研修學生對憲法與臺灣民主政治發展具正確認識與概括性瞭解，進而與專業性學理相結合，期能深入探索憲法與臺灣民主政治發展中之若干重要議題。	1. Cultivate students' basic understanding of constitutional theory. 2. To enhance students' understanding of Taiwan's political changes and national development, and to cultivate the ability to analyse the national and world situation from a broad perspective based on Taiwan, caring for the society, and a global view. 3. To strengthen students' understanding of the Constitution and the development of Taiwan's democracy and politics, and to integrate them with professional theories so that they can explore in depth some important issues in the development of the Constitution and Taiwan's democracy and politics.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG10、SDG16、SDG17
2022	Undergraduate	B9M013A4	1	A	影像配樂編曲製作(美學)	Music Composing and Arranging for Film and Video	論作曲，及編曲，為音樂藝術表達於個人自我呈現中，屬最為全 面，完整之應用途徑，同時在音樂相關領域中，範圍亦牽涉最為廣闊，繁複多樣。經由對音階，和聲，對位等，及多層次樂器行進組織的技術認識，執行，至將核心創意與之自然結合，產生將自身所期待傳遞的訊息，以理性融合感性，可豐富敘述，多樣貌，表達強大和深層的內在語言。 舉凡流行音樂，交響樂，室內樂，電影，影像音樂等，技術與創意皆各有其方向特殊性，本課程著重於針對共同基礎進行技巧實作練習，創意啟發，類型嘗試，影音作品欣賞體驗，達成學生透過此領域自我實現其可能性的廣度。	Composition and arranging are the most comprehensive and complete applications of musical expression in personal self-expression. Composition and arranging are the most comprehensive and complete applications of musical expression in personal self-expression, and they also cover the widest and most diverse range of music-related fields. Through the technical understanding and execution of scales, harmony, counterpoint, etc., as well as the organisation of multiple instrumental progressions, and the natural combination of core creativity, the result is a message that conveys its own expectations, blending rationality with sensibility, and enriching narrative, diversity, and the expression of a powerful and deep inner language. In popular music, symphonic music, chamber music, film, video music, etc., technology and creativity have their own direction and specificity, and this course focuses on the common foundation of practical exercises in technique, creative inspiration, genre experimentation, and audio-visual work appreciation experience, to achieve the breadth of possibilities that students can achieve through self-realisation in this field.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG10
2022	Undergraduate	B9M013C9	1	A	硬筆書法與書道美學(美學)	Hardink Calligraphy and Aesthetics of Traditional Calligraphy	課堂透過範例分析與實務操作，以書寫硬筆原理傳達文字造型、線條和空間美學，間接獲得書法或書道藝術相關知識，同時透過文字點、線、面的結構和解構過程，培養美學觀與鑑賞能力。課程兼具書法與書寫之理論、實作與應用，再擴及美學所探討的思想和人文，符合通論人文精神和人文知識，讓任何領域背景的學生，對書寫具備寫好字的基本能力和美學素養。 (開放現場3位同學加簽)	Through analysis of examples and practical exercises, the course conveys the aesthetics of character modelling, line and space by means of the principles of calligraphy, indirectly acquiring knowledge of calligraphy or the art of Shudo, and at the same time cultivating an aesthetic outlook and the ability to appreciate through the process of structuring and reconstructing the dots, lines and surfaces of the characters. The course combines the theory, practice and application of calligraphy and writing, and expands on the ideas and humanities explored in aesthetics, in line with the general theory of humanism and humanities knowledge, so that students from all fields can have the basic ability to write well and have aesthetic qualities in writing. (Open to 3 students for countersigning)	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M013H9	1	A	傳承與創新--王光祥講座(全球)	Inheritance and Innovation	1. 結合理論與實務經驗探討、培養學生具備廣闊視野。 2. 實際案例的多元討論，讓學生了解當代台灣社會發展機制及趨勢。 3. 豐富學生的知能與經驗，強化對世界的理解、增加對生活意義和價值的體悟	1. Combining theoretical and practical experiences, students will be able to develop a broad perspective. 2. To enable students to understand the mechanism and trend of social development in contemporary Taiwan through diversified discussions of practical cases. 3. to enrich students' knowledge and experience, enhance their understanding of the world, and increase their appreciation of the meaning and value of life.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG4、SDG16、SDG17
2022	Undergraduate	B9M014HT	1	A	《論語》人文思想的現代解讀 (經典)	Contemporary meaning in the Analects of Confucius	經由對經典性文獻的研討分析過程，使學生熟悉人文思維的程序與方法，對人文傳統有深一層的認識。並經由課堂討論與報告寫作，一方面增長學生的思考及表達能力，一方面促進學生能反思己身之生命處境，及待人處事之態度，使經典思想得以融入個人生命。	Through the process of studying and analysing classical literature, students will become familiar with the procedures and methods of humanistic thinking and gain a deeper understanding of the humanistic tradition. Through class discussions and report writing, students will be able to develop their thinking and expression skills on the one hand, and on the other hand, they will be able to reflect on their own life situations and attitudes towards others, so that classical thinking can be integrated into their personal lives.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG10、SDG10
2022	Undergraduate	B9M01Z5W	1	A	世界文明與發展(全球)	Civilizations and Development of the World	立足台灣、放眼世界，如何以更開闊的視野面向世界，是台灣世界文明課程的重要主題。本課程將簡明扼要地介紹世界文明的特色與精髓，經由客觀理性的文化認知，豐富學生的世界觀。 本課程設計為一學期課程；從浩瀚的世界歷史當中，選擇八個具有代表性與歷史意義的主題，做精要的介紹。其中包含與歐洲文化起源有關的四個古文明：西亞、埃及、希臘、羅馬；以及四個與西方現代性的產生，有著密切相關的文化：中古文化、文藝復興、近代都市文化、啟蒙運動。希望透過古文明與現代性的鋪陳，依循從古而今的時代脈絡，拓展學生視野、增進對世界的瞭解。	Based on Taiwan and looking at the world, how to face the world with a broader vision is an important theme of the World Civilisations course in Taiwan. This course will briefly introduce the characteristics and essence of world civilisations, enriching students' worldview through objective and rational cultural awareness. The course is designed as a semester-long programme; from the vastness of world history, eight representative and historically significant themes are selected for a concise introduction. These include four ancient civilisations related to the origins of European culture: Western Asia, Egypt, Greece, and Rome; and four cultures closely related to the emergence of Western modernity: the Middle Ages, the Renaissance, modern urban culture, and the Enlightenment. It is hoped that through the presentation of ancient civilisations and modernity, students will be able to broaden their horizons and gain a better understanding of the world by following the ancient to modern time line.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5、SDG10、SDG16、SDG17
2022	Undergraduate	B9M01Z64	1	5	海洋科學概論	Introduction to Oceanography	藉由不同海洋領域的老師介紹海洋科學，帶領同學從不同面向瞭解海洋。	Introducing oceanography by different professors who major in different marine subjects. This could lead students to understand the ocean from different perspective.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG14、SDG17
2022	Undergraduate	B9M01ZJK	1	A	氣象與氣候變遷(自然)	Meteorology and Climate Change	本課程旨在藉由全球環境問題和對策、氣候變遷、全球暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。 本課程亦重點介紹氣象學概論、包含氣象因子與大氣輻射、大氣的水分、大氣的水平運動、大氣環流、熱帶氣旋、天氣分析與發展和資料觀測以及氣候變遷與災變天氣，兼具基礎性與實用性。特別強調台灣氣候變遷與衝擊，以培養學生立足台灣胸懷世界，以期邁向地球永續發展，屬博雅領域之自然科學課程。 工業革命以來，全球的工業化和都市化導致嚴重的環境問題，而全球環境變遷，其原因可能是自然的，亦可能是人為的。本課程旨在藉由全球環境問題和對策、氣候變遷、全球溫暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。同時藉由學生學習目標的建立，環保相關新聞媒體的閱讀和觀賞，環保論壇相關議題的討論，校園、社區、河川和海洋環保議題的分組探索實作，以及環保議題綜合報告，培育現代公民應有之科學、倫理、民主、美學與媒體素養能力，以期邁向地球永續發展。 台灣的各季節，即使在同一時間的不同地區，也可以有很不一樣的天氣。在各個季節裡均有導致人民生命財產損失的災變天氣，如夏秋的颱風、五六月的梅雨和導致的豪雨、冬季的寒流以及春季的乾旱等，是造成災害的罪魁禍首。台灣雖小，但是氣象萬千，因為台灣位在最大海洋太平洋與最大陸地歐亞大陸交界地區，深受海洋和大陸的雙重影響；又位於副熱帶地區，深受由北方而來的中緯度天	provide student basic concept of meteorology and environment. including climate change , global warming , sustainable development. climate change and severe weather of Taiwan. and then to love earth and Taiwan in final.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG2、SDG4、SDG7、SDG7、SDG11、SDG11、SDG13、SDG13、SDG15、SDG17、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZLK	1	B	新能源與環境治理(科技)	New Energy and Environmental Governance	1.使學習者了解全球氣候變遷、環境治理、新能源發展與技術、各國新能源發展經驗與限制等知識，並反思台灣的發展經驗，引導學生從「科技的社會形塑」觀點，去探討與思辯綠能科技發展與人類社會的互動影響； 2.使學習者於期末針對各國新能源發展提出個案報告（日本、德國、丹麥、英國、美國、中國大陸、南韓、印度、法國、巴西、荷蘭、瑞典、比利時、挪威、愛爾蘭...等國家），提升學生對於新能源未來市場、職場及產業技術的知識與視野。	1. To enable learners to understand global climate change, environmental governance, new energy development and technology, and the experience and limitations of new energy development in various countries, as well as to reflect on Taiwan's development experience, and to guide students to explore and debate the interaction between the development of green energy technology and the human society from the perspective of the "social shaping of technology; 2. To enable learners to present case reports on new energy development in various countries at the end of the semester (Japan, Germany, Denmark, the United Kingdom, the United States, China, South Korea, India, France, Brazil, the Netherlands, Sweden, Belgium, Norway, Ireland, etc.), and to enhance the students' knowledge and vision of the future new energy market, workplace, and industrial technology.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG7、SDG13
2022	Undergraduate	B9M013N6	1	A	傳播倫理與媒體素養(民主)	Communication Ethics and Media Literacy	假新聞全球肆虐，分不清新聞的真假，如何面對後真相時代的亂象？假新聞該誰管？誰能管？管不管得了？真正解決問題的途徑為何？長期以來，電視收視率掛帥、羶色腥內容、業配/廣告置入新聞，媒體可信度如何維持？該誰把關？如何判斷新聞價值？提升媒體專業品質如何可能？而隨著傳播科技發展，社群平台日新月異，在人人都可以是記者，每個人都能報導新聞、自行傳播內容的網路時代，媒體的公信及專業，與一般人何異？後真相時代來臨，培養具媒體素養的公民、耳聰目明的閱聽人，無疑是傳播媒體改革相當重要的動能之一。 傳播倫理（Communication Ethics）是針對媒體從業人員傳播內容行為對接收者產生影響所涉行動方針與道德規範；媒體素養（Media Literacy）不同於培養媒體專業教育，而是針對一般公眾近用、分析、評估及產製訊息的媒體教育。隨著傳播媒介所涉重要議題及影響力日深且廣，傳播倫理教育及媒體素養/識讀已漸成日常生活所需能力、終身學習課題之一，與民主法治及公民意識建立，至為相關。本課程授課內容從媒體專業自主、言論自由、社會責任，到探討假新聞、媒體可信度、置入性行銷、廣告與收視率、近用權與媒體監督、媒體識讀行動力等議題，同時隨著各式新型態傳播媒體，傳播倫理所涉不同媒體產業之重大案例、關鍵課題、自律規範、問責機制、政策法規、媒體信任危機、解決方案等，逐步培養學生認知傳播倫理核心觀念，以及全媒體時代所需思考判斷、溝通表達與媒體素養行動力。	Fake news is rampant all over the world. How can we face the chaos in the post-truth era when we can't tell whether the news is true or false? Who should regulate fake news? Who can control it? Can it be regulated? What is the real solution to the problem? How can the credibility of the media be maintained in the face of the long-standing trend of TV ratings, lack of colourful content, and the inclusion of advertisements in the news? Who should be the gatekeeper? How to judge the value of news? How is it possible to improve the professional quality of the media? With the development of communication technology and the ever-changing social platforms, everyone can be a reporter, and everyone can report the news and disseminate the content on their own, how is the credibility and professionalism of the media any different from that of the general public in the Internet era? With the advent of the post-truth era, the cultivation of media literate citizens and smart listeners is undoubtedly one of the most important driving forces for media reform. Communication Ethics is a code of conduct and ethics that focuses on the impact of media practitioners' actions on the recipients of their content; Media Literacy is not the same as media professional education, but rather a media education that focuses on the general public's access to, analysis of, evaluation of, and production of information. With the growing importance and influence of the media, education in communication ethics and media literacy has become one of the competencies required in daily life and a lifelong learning issue, which is relevant to democracy, the rule of law and the building of civic awareness. The content of this course ranges from professional autonomy of the media, freedom of expression, and social responsibility to topics such as fake	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG5、SDG5、SDG10、SDG10
2022	Undergraduate	B9M013TG	1	A	海洋環境體驗與影視創作(人格)	Marine Environment Experience and Film Creation	結合海洋及社會人文相關議題，發揮學生團隊合作精神，製作融入美感與情意態度的紀錄片。	Combining the issues of ocean, society and humanity, the student""s team will work with the spirit of cooperation to create a documentary that incorporates aesthetic and affectionate attitudes.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG11、SDG12
2022	Undergraduate	B9M013TH	1	A	永續發展保護環境與健康(自然)	Sustainable Developmental Coals for Protecting Environment and Human Health	透過「永續發展」（sustainable development）的概念，以「環境」與「健康」這兩大主軸議題，讓學生瞭解環境與健康之關係、辨識環境危害物對健康之影響，並探討如何控制環境污染的方法與促進健康。	Through the concept of "sustainable development" and the two main themes of "environment" and "health", this course enables students to understand the relationship between environment and health, identify the impact of environmental hazards on health, and discuss how to control environmental pollution and promote health.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG6、SDG7、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16
2022	Undergraduate	B9M014CA	1	A	智慧財產權法概論(民主)	Introduction to Intellectual Property Laws	立法院於民國九十六年一月九日三讀通過智慧財產案件審理法，同(九十六)年三月五日制定智慧財產法院組織法。智慧財產（Intellectual property）的法制化有助於社會經濟發展。然而，智慧財產在權利性質上也是一種對於智慧活動成果壟斷的特權；在專利法除罪化之後，刑罰的制裁仍存在於著作權法及商標法之中。值得反思的是，我國現行法律是否提供權利人過度的保護，造成人們在日常生活中動輒得咎，構成侵權。本課程除介紹現行法律對於著作權、商標權、專利權等相關規定，也嘗試從「合理使用」的角度檢視具體案例及爭議。期望藉由討論與對話，讓這門相當專業的法學課程，能應用及落實在日常生活中；也期使學生們在其各自的專業領域上，具備成為一個現代公民應	Intellectual property laws mainly consists of Trademark rights, Copyrights and Patents Law. To help our students obtaining the relevant knowledge and cultivate the mind and the spirit of law-abiding, this class focuses on the scope, limits of Intellectual property rights and the reasonable access of its fair use.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M014I3	1	A	跨場域藝術表達(USR) (人格)	Cross-Field And Artistic Expression(USR)	1.場域的移動教學外，透過藝術的觀察和實踐進行跨領域思考與表達。 2.「取之於自然用之於自然」：裝置藝術的里山、里海倡議。 3.透過裝置藝術表達議題；利用綜合媒材的藝術創作為議題敘事力。 4.培養大學生的社會責任和聯合國「永續發展目標」(SDGs)素養。 5.課程融合美感、生態和公民教育。	1. Outside of mobile teaching, cross-disciplinary thinking and expression through observation and practice of art. 2. "Taking from nature and using in nature": the installation art of Satoyama and Caspian Sea initiative. 3. To express issues through installation art; to use mixed media art creation as a narrative force for issues. 4. Cultivate social responsibility and the United Nations' Sustainable Development Goals (SDGs) among university students. 5. The programme integrates aesthetics, ecology and civic education.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG14、SDG15
2022	Undergraduate	B9M014I9	1	A	藻類、海洋與生活 (自然)	Algae、Ocean and Life	二、教學目標 1.培養學生從日常生活中認識無所不在的藻類生物。 2.培養學生對海洋的基本認識與建立海洋素養，藉此對應永續發展目標第14項。 3.藉由藻類飲食文化、藻類生物科技，引導學生認識藻類在不同時空背景下的利用與發展。 4.培養學生關察生活、關心海洋與關注環境變遷的能力，藉此對應永續發展目標第13與14項。	Teaching Objectives 1. To cultivate students' understanding of the ubiquitous algal organisms in their daily lives. 2. Cultivate students' basic understanding of the ocean and build up their marine literacy, so as to respond to the Sustainable Development Goal 14. 3. Through the culture of algal diet and algal biotechnology, students will learn about the use and development of algae in different temporal and spatial contexts. 4. Cultivate students' ability to care about life, the ocean, and environmental change, thereby addressing SDOs 13 and 14.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG14
2022	Undergraduate	B9M01Z5W	1	B	世界文明與發展(全球)	Civilizations and Development of the World	立足台灣、放眼世界，如何以更開闊的視野面向世界，是台灣世界文明課程的重要主題。本課程將簡明扼要地介紹世界文明的特色與精髓，經由客觀理性的文化認知，豐富學生的世界觀。 本課程設計為一學期課程；從浩瀚的世界歷史當中，選擇八個具有代表性與歷史意義的主題，做精要的介紹。其中包含與歐洲文化起源有關的四個古文明：西亞、埃及、希臘、羅馬；以及四個與西方現代性的產生，有著密切相關的文化：中古文化、文藝復興、近代都市文化、啟蒙運動。希望透過古文明與現代性的鋪陳，依循從古而今的時代脈絡，拓展學生視野、增進對世界的瞭解。	Based on Taiwan and looking at the world, how to face the world with a broader vision is an important theme of the World Civilisations course in Taiwan. This course will briefly introduce the characteristics and essence of world civilisations, enriching students' worldview through objective and rational cultural awareness. The course is designed as a semester-long programme; from the vastness of world history, eight representative and historically significant themes are selected for a concise introduction. These include four ancient civilisations related to the origins of European culture: Western Asia, Egypt, Greece, and Rome; and four cultures closely related to the emergence of Western modernity: the Middle Ages, the Renaissance, modern urban culture, and the Enlightenment. It is hoped that through the presentation of ancient civilisations and modernity, students will be able to broaden their horizons and gain a better understanding of the world by following the ancient to modern time line.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5、SDG10、SDG16、SDG17
2022	Undergraduate	B9M01Z64	1	1	海洋科學概論	Introduction to Oceanography	本課程針對非海洋科學主修之大一學生，以描述性講授與宏觀的角度，簡介海洋的物理、化學性質、與海洋地質及生物。期能使學生對海洋科學有概括性認識與了解。	This class aims to descriptively introduce the general physics, chemistry, geology, and biology of the ocean to non-ocean science major freshman undergraduate students, and brings an overview of the oceanography as well to help the students understand the fundamentals of the ocean sciences.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG13、SDG14、SDG14、SDG17、SDG17
2022	Undergraduate	B9M01Z64	1	4	海洋科學概論	Introduction to Oceanography	本課程針對非海洋科學主修之大一學生，以描述性講授與宏觀的角度，簡介海洋的物理、化學性質、與海洋地質及生物。期能使學生對海洋科學有概括性認識與了解。	This class aims to descriptively introduce the general physics, chemistry, geology, and biology of the ocean to non-ocean science major freshman undergraduate students, and brings an overview of the oceanography as well to help the students understand the fundamentals of the ocean sciences.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG14、SDG17
2022	Undergraduate	B9M01ZBM	1	B	中國社會史(歷史)	History of Chinese Society	本課程旨在透過數種不同性質與模式的社會運動，呈現傳統中國社會中的四民大眾對生存環境不滿而產生的反抗行動或自力救濟行為。同學可因此對若干個案有較深入地了解，並藉此吸取經驗，以為檢視當今社會運動的參考。	This course aims to present, through a number of social movements of different natures and modes, the acts of resistance or self-help of the masses of the four peoples of traditional Chinese society, who were dissatisfied with their living environment. Students will be able to gain a deeper understanding of some of these cases and learn from their experiences as a reference for examining contemporary social movements.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG11、SDG16
2022	Undergraduate	B9M01ZFF	1	A	性別平權教育(民主)	Education of Gender Equality	（1）.瞭解性別平權的重要性，同時藉由性別平權發現人權的多樣面貌，以及在全球化脈絡下思考如何看待性別及其轉變。 （2）.透過多元評量方式評量學生的學習過程 （3）.透過願景工作坊養成學生批判、思考及創造能力	(1). Understanding the importance of gender equality, discovering the diversity of human rights through gender equality, and thinking about gender and its changes in the context of globalisation. (2). To assess students' learning process through multiple assessment methods. (3). To develop students' critical, reflective and creative skills through visioning workshops.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5
2022	Undergraduate	B9M01ZFU	1	A	刑法概要(民主)	A Summary of the Criminal Law	藉由本課程使學生理解刑法基礎概念、指導原則、效力與適用關係；並對犯罪類型、罪責判斷基礎、學說有整體認知。	This course provides students with an understanding of the basic concepts, guiding principles, effects, and application of criminal law, as well as a general awareness of the types of crimes, bases for determining culpability, and doctrines.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG4、SDG5、SDG5、SDG6、SDG10、SDG10、SDG11、SDG16、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZGH	1	A	音樂劇場(經典)	The Theater of Music	〈一〉認識經典劇場之藝術形式、演出，各式舞台的種類名稱，藉以培養學生欣賞能力的建立。 〈二〉學習到劇場美學涵蓋音樂元素的多元展演空間，如歌劇、音樂劇的比較及其演變發展的歷史，舞蹈劇場肢體與音樂節奏、線條、旋律情感的相關性，動畫電影配合音樂魔力吸引人的魅力風情，地方劇種中戲曲音樂又為其靈魂的主體。 〈三〉從諸多的音樂劇場中認識各種風格的音樂類型、動聽的歌曲，從中認識文學與戲劇、古典音樂、流行音樂、傳統音樂間的互動，進而使其生活能活潑化，且能有豐富的欣賞饗宴。 〈四〉安排創作性戲劇課程訓練分組活動進行，以遊戲為目標，激發身體的反應，對於學生記憶力，專注力、想像力、創造力、肌肉放鬆的訓練，有幫助學習的成效。	1.To approach the Art of Theater include of music forms, facility, backstage crew, different Theater performance stage ….etc, to their appreciation with open minds and open ears. 2.To know the essential elements of Theater performance space from various stages, the evolution history of Opera Vs. Musical Theatre. The Theatre of dance with the body movement, music of tempo, melody, emotion. Animation film in music express the magic power attractive. Traditional music with the Theater perform to the folk theme of soul. 3.Form different kind of The Theatre of Music to know - literature and theatre, Classical music , popular music , Traditional music, as well as designs and expenses, have the good fun and intensive appreciation life. 4.The Theater games for improving creation by team work arrangement, this course aims to cultivate students'' ability to body reaction, memory, concentration, imagination, body relaxing, improving student to learn and have achievement.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3、SDG5、SDG5、SDG17、SDG17
2022	Undergraduate	B9M01ZGI	1	A	現代藝術賞析(美學)	Appreciation of Modern Arts	一、提昇學生對藝術的藝術的興趣與涵養 二、增進學生對現代藝術思潮的認識與批判的能力 三、經由對現代藝術體驗與操作，可拓展其宏觀的心志	To enhance students' interest in and appreciation of the art of art. Enhance students' understanding of modern art trends and their ability to criticise them. Through the experience and operation of modern art, students can expand their macroscopic mind.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG2、SDG4、SDG5、SDG10、SDG13、SDG14、SDG15、SDG17
2022	Undergraduate	B9M01ZGN	1	A	海洋、漁業與生活(自然)	Ocean、Fisheries and Life	本通識課程的目地是希望提供有興趣於海洋科學的同學，一些最基本的海洋、漁業與資源利用及管理的相關知識。本課程以問答的方式設計課程內容，將海洋資源的特性、利用與管理融入生活相關議題。幫助初學者：從日常生活相關的議題去認識海洋，了解漁業資源的重要性、並在人類如何有效的利用與開發此等資源等，有一通識性的了解，課程內容也將探討我們在資源開發及利用上所衍生的種種問題，及人類應有的思維與對策；期望同學在修習本課程之後，都能夠體認到人類生活與海洋及資源密不可分的關聯，進而能夠對海洋及資源的永續利用盡一份心力。	The purpose of this General Studies programme is to provide students interested in marine science with some basic knowledge of the oceans, fisheries and resource utilisation and management. The course is designed in a question-and-answer format that integrates the characteristics, use, and management of marine resources into daily life issues. The course will help beginners to understand the oceans and seas from the perspective of daily life, the importance of fisheries resources, and how humans can effectively use and develop these resources. The course will also explore the problems arising from the development and utilisation of resources, as well as the thinking and countermeasures that humans should adopt; it is hoped that students will be able to recognise the inseparable link between human life and the oceans and resources after taking this course. It is hoped that after attending this course, students will be able to realise that human life is inextricably linked to the oceans and resources, and thus be able to do their part in the sustainable use of the oceans and resources.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG12、SDG14
2022	Undergraduate	B9M01ZM6	1	A	問題分析與解決方法(科技)	Innovation Problem Analysis and Solution Method	1.運用案例研討使學生習得常用最新潮流之一到三級產業問題分析與解決之方法。 2.運用案例研討使學生習得學業或工作上問題與改善步驟案例之方法。 3.藉由工作坊使學生習得如何結合創新創業方法達成問題解決。 4.使學生了解、熟練活動改善技能，並能有效率的解決問題並獲得改善。	1. Using case studies, students will learn how to analyse and solve problems in one of the latest trends in the industry up to the tertiary level. 2. Using case studies to enable students to learn how to analyse problems and improvement steps in their studies or work. 3. Through workshops, students will learn how to combine innovative entrepreneurial methods to achieve problem solving. 4. To enable students to understand and practise the skills of activity improvement, and to solve problems efficiently and get improvements.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG11、SDG12、SDG17
2022	Undergraduate	B9M01024	1	N	人工智慧概論	Introduction to Artificial Intelligence	介紹人工智慧歷史、主要技術、及其它人工智慧相關議題。	This course gives an introduction to the history and technology of artificial intelligence and related issues.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M01024	1	P	人工智慧概論	Introduction to Artificial Intelligence	人工智慧(Artificial Intelligence, AI)時代已經來臨，各式各樣不同的服務已經發展並應用於各領域中，本課程主要目標為 整合並介紹相關AI應用服務，並邀請各領域專家對談AI在各產業的應用、現況經驗分享與未來趨勢分析。期望讓同學在課堂中了解相關之理論與作業實作之外，降低學用落差，透過管理的思惟模式整合不同的學理背景，進而培養跨域的能力。	The era of Artificial Intelligence (AI) has arrived, and a variety of different services have been developed and applied in various fields, the main objectives of this course are to The main objective of this course is to integrate and introduce related AI application services, and invite experts in various fields to talk about the application of AI in various industries, share the current experience and analyse the future trend. We hope that students can understand the relevant theories and practical work in the classroom, reduce the gap between learning and use, and integrate different academic backgrounds through the management mode of thinking, thus cultivating cross-domain competence.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17

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2022	Undergraduate	B9M01024	1	R	人工智慧概論	Introduction to Artificial Intelligence	介紹人工智慧之基本概念,包括專家系統,類神經網路,模糊系統,基因演算法等基本原理及應用.	Introduces the basic concepts of artificial intelligence, including expert systems, neural networks, fuzzy systems, genetic algorithms and other basic principles and applications.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG9
2022	Undergraduate	B9M012UZ	1	A	人文、科學的相遇(科技)	The Encounter between Humanity and Science	此課程希望讓學生能了解科學發展和人文元素的關係，進而可以進行自然科學與人文深處的對話。希望學生體認物質自然與心靈人文不是兩條平行線，而每一個人生活的原動力不單單是從自然科學來，是從你瞭解了宇宙萬事萬物，統合起來的。	This course is aimed to enable students to understand the relationship between the development of sciences and elements of humanity, and then to engage in the constructive dialogue between the natural sciences and the humanities. Consequently, the students can recognize that materials-oriented sciences and heart-mind humanity are not two parallel lines, and the motive forces of every life beings are not originated only from the natural sciences, but also from the understanding of everything in the universe.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3、SDG4、SDG4、SDG13、SDG14、SDG16
2022	Undergraduate	B9M013UA	1	A	聽覺識別與流行創作(美學)	Music Recognition and Song Writing	本課程引導及培養學生建立在音樂調性上使用聽覺分辨其不同頻率的確切位置，以達成對流行歌曲及流行音樂進行寫作的能力，具有敏銳的音頻正確性聽覺辨識是一項在於音樂寫作上必備的條件，課程採用各種範例工具提升學生建構此條件並進而可嘗試自行創作，達到產生個人獨特作品為本課程實現實務的目標.	This course guides and develops students to establish the ability to use their sense of hearing to distinguish the exact position of different frequencies in musical tonality in order to achieve the ability to write pop songs and pop music. A keen sense of audio correctness is a must in music writing, and the course uses a variety of exemplary tools to enhance students to construct this condition and then try to create their own works, so as to achieve the goal of generating unique works for the realisation of the practical aspects of this course.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M014EI	1	A	基礎小提琴演奏與聽覺應用藝術(美學)	The art of basic violin technique and aural application	透過小提琴基礎演奏訓練以及曲目聆聽分析，建立學生對於音感與美感的認知，並且以準確的練習方式以及自我分析能力為主，旨在希望學生修習課程完畢後，能掌握全面性的樂器自學能力，未來能以正確的方式持續自學樂器演奏，將音樂融入生活，提升生活中的美學。	Through basic violin performance training and repertoire listening analysis, students will build up their awareness of sound and aesthetics, as well as accurate practice methods and self-analysis skills. We hope that after completing the course, students will be able to acquire comprehensive self-learning skills on their own, and continue to learn to play on their own in the future in the right way, so that they can incorporate music into their lives, and enhance the aesthetics of their lives.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M014HR	1	A	由得獎電影看台灣族群與家庭 (經典)	Ethnicity and Family in Award-Winning Movies of Taiwan	藉由得獎電影了解導演或編劇切入探討台灣族群問題與家庭問題之角度，放置於台灣社會變遷之架構中詮釋。	Through award-winning films, the director or screenwriter explores the issues of ethnic groups and families in Taiwan and interprets them in the context of Taiwan's social changes.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5、SDG10、SDG11、SDG16
2022	Undergraduate	B9M014HU	1	A	經典電影與電影大師 (經典)	Classic Cinema & Cinematic Masters	現代人類的生活依賴媒體，過去百年來，人類受電影作用，本課 程以第七藝術、 ‘電影不是戲劇 ‘、法國印象派、馬克思主義、 俄羅斯形式主義、蒙太奇、後現代電影為主要架構，並輔以影片， 讓同學能有概念。本課程串連文獻經典與影片，提升學生對電影 反思的重視。	Modern human life is dependent on the media, and over the past hundred years, human beings have been influenced by the role of film. The course is structured around the Seventh Art, 'Film is not Drama', French Impressionism, Marxism, Russian Formalism, Montage, and Post-Modern Cinema, and is supplemented by films to give students an idea of the concepts. This course will link up the literature and films to enhance students' attention to reflections on cinema.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10
2022	Undergraduate	B9M014I1	1	A	基本人權專題(民主)	Seminar on Constitutional Rights	01. 藉由人權專題認識我們日常生活中與自身息息相關的基本權利 02. 瞭解網路時代，新興的基本權利及其規範內涵. 03. 使同學們學到相關的知識和守法的精神	01. By means of human rights issues for discussion, we may learn the scope and the limit of particular identity-related Constitutional rights. 02. To see, in the Internet age, kinds of newly emerging human rights and its content. 03. To help our students obtaining the relevant knowledge and cultivating the mind and law-abiding spirit in this class.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16
2022	Undergraduate	B9M01Z64	1	3	海洋科學概論	Introduction to Oceanography	本課程針對非海洋科學主修之大一學生，以描述性講授與宏觀的角度，簡介海洋的物理、化學性質、與海洋地質及生物。期能使學生對海洋科學有概括性認識與了解。	This class aims to descriptively introduce the general physics, chemistry, geology, and biology of the ocean to non-ocean science major freshman undergraduate students, and brings an overview of the oceanography as well to help the students understand the fundamentals of the ocean sciences.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG14、SDG17
2022	Undergraduate	B9M01ZBH	1	B	政治變遷與國家發展(全球)	Political Change and National Development	1、培養學生對憲法理論具基本認識。 2、提昇學生了解台灣政治變遷與國家發展，培養立足台灣、關懷社會、宏觀全球之胸襟與視野剖析國情與世局之能力。 3、強化研修學生對憲法與臺灣民主政治發展具正確認與概括性瞭解，進而與專業性學理相結合，期能深入探索憲法與臺灣民主政治發展中之若干重要議題。	1. To develop students' basic understanding of constitutional theory. 2. To enhance students' understanding of Taiwan's political changes and national development, and to cultivate the ability to analyse the national and world situation from a broad perspective based on Taiwan, caring for the community, and a global perspective. 3. Strengthening students' positive and general understanding of the constitution and Taiwan's democratic political development, and then combining it with professional theories, in the hope of exploring in-depth some important issues in the development of the constitution and Taiwan's democratic politics.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG10、SDG16、SDG17

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2022	Undergraduate	B9M01ZBR	1	A	中國文化史(歷史)	History of Chinese Culture	本課程旨在透過各個專題探討傳統中國文化的發展與演變，使學生對傳統中國文化的特色及若干面相能有較深入而廣泛地瞭解，並藉此吸取經驗，以為檢視當今社會文化的參考。課程設計除導論外，分為政治（制度）、社會（階層）、經濟（生計活動）及思想（科技）四大領域，自各領域中選擇重要課題予以說明。	This programme aims to explore the development and evolution of traditional Chinese culture through various topics, so that students can gain a deeper and broader understanding of the characteristics and certain aspects of traditional Chinese culture, and learn from the experience to serve as a reference for examining the culture of today's society. In addition to the introduction, the programme is divided into four major areas, namely political (institutions), social (classes), economic (livelihood activities) and intellectual (science and technology), and important topics are selected from each of these areas for illustration.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG16
2022	Undergraduate	B9M01ZDK	1	A	三國志與三國演義(經典)	Orthodox History About The Three Kingdom Period & Romance of Three Kingdoms	一般人對三國歷史概念的建立大多依賴三國演義，三國演義的內容對中國人的生活、思維、人際關係、價值判斷多所影響，層面寬廣之外，猶穿越時空，現代流行的遊戲亦有以三國歷史為背景舞臺的。 然演義是由民間形塑成的歷史，與正史由官方撰述成的歷史，多所差異。課堂上對差異形成的分析，將展現客觀歷史的抉擇與主觀願望的嚮往，大歷史的官方堅持與小歷史的民間力量等等，令學習者醒覺習焉不察的文化底蘊。 其次，以人物為經，以史事為緯，論述處亂世形形色色人物，在變化莫測世局的生命歷練，令學習者體悟生命的意義，返思人生的價值，進而學習觀察人性，以利立足社會。 再者，藉原典原文的研讀，得欣賞經典著作文章之美，假古人古事的析論，能洞悉今人今事之理。	The general public relies on the Three Kingdoms Shingo to build up their concept of the history of the Three Kingdoms. The content of the Three Kingdoms Shingo has a lot of influence on Chinese people's life, thinking, interpersonal relationships, and value judgement, and its broad dimensions are like travelling through space and time, and there are also popular games that use the history of the Three Kingdoms as a background stage. However, the history of the Three Kingdoms is shaped by the people and differs from the official history of the Three Kingdoms. Analyses of the differences in the classroom will reveal the objective historical choices and subjective aspirations, the official insistence of the larger history and the folk power of the smaller history, and so on, so that learners will be awakened to the cultural underpinnings of the history that they have not yet learnt. Secondly, using the characters as the warp and the historical events as the latitude, it discusses the life experiences of various characters in the chaotic world and the unpredictable world situation, so that the learners can realise the meaning of life and reflect on the value of life, and then learn to observe human nature, so as to gain a foothold in the society. In addition, through the study of the original texts, the learner will be able to appreciate the beauty of classical writings, and through the analysis of ancient events, the learner will be able to understand the reasoning of present-day people and events.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01ZDM	1	A	世界名歌欣賞(經典)	An Appreciation of The World Famous Songs	〈一〉本課程以互動式、生活化介紹世界各地名歌之經典系列介紹，探討其音樂藝術之內涵及其多樣貌風格。介紹不同國家、語言所激發出的歌曲創作，其影響到歌曲之發展因素等，藉以培養鑑賞能力及歌唱技能之素養為導向。 〈二〉從趣味化的實際習唱中，學習到不同國家經典名歌中其歌詞語言的發音，從中獲取經驗的累積，能學習多種語言之基本發音，了解到歌曲的詞與曲結合過程中所呈現的藝術之美。 〈三〉認識世界名歌各種類型、聲樂演唱方式呈現，使學生與其生活、生長背景之鄉土具有親切感，更能產生認同歸屬的土地之愛與國際世界觀。 〈四〉從不同的演唱方式之歌曲介紹與課堂分組活動報告，呈現出不同的歌謠聲音之美與藝術化的境界，對於學生生活調劑及未來就職學習技能導向皆能有所助益。	1. This course is an interactive, life-like introduction to the classic series of famous songs from around the world, exploring their musical connotations and their diverse styles. It introduces the song compositions inspired by different countries and languages, and the factors affecting the development of songs, with the aim of cultivating appreciation and singing skills. 2. From the interesting practical practice of singing, we will learn the pronunciation of the lyrics in the classic songs of different countries, and through the accumulation of experience, we will be able to learn the basic pronunciation of various languages, and understand the artistic beauty presented in the process of combining the lyrics and the music of a song. 3. Understanding the various types of world famous songs and the way they are sung vocally will enable students to have a sense of kinship with the country where they live and grow up, and to develop a sense of identity and belonging to the love of the land and the international world view. 4. From the introduction of different singing styles and reports on classroom group activities, the beauty and artistic realm of different song voices will be presented, which will be helpful to students in their life adjustment and future job learning skills.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3、SDG5、SDG5、SDG17、SDG17
2022	Undergraduate	B9M01ZFY	1	A	創業管理之實務應用(全球)	Start An Enterprise	進階創業與管理課程，旨在使學生延續營運計畫書所學基礎，進一步掌握產業發展趨勢，深入各種分析技巧，創造出特色優勢，結合知名企業實務經驗，逐步引導學生掌握創業之各項關鍵因素，進而培養學生未來創業及經營管理能力。	The Advanced Entrepreneurship and Management Programme is designed to enable students to continue the foundation of what they have learnt in the Business Planning Book, to further grasp the trends of industry development, to deepen various analysis techniques, to create distinctive advantages, and to combine with the practical experience of well-known enterprises, to gradually guide students to grasp the key factors of entrepreneurship, and then to cultivate the future entrepreneurship and management ability of the students.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZIZ	1	A	魚文化與文學(美學)	Fish Culture And Literature	台灣四面環海，海洋資源豐富，水產品在民眾的飲食中佔有重要的地位，「魚」與相關水中動物看似平凡，卻與人們有密切的關係。然而隨著科技的進步與社會變遷，漁村沒落，海洋資源的日益枯竭，除了針對海洋生態環境的研究復育之外，對於海洋相關文化與人文活動的重視與實踐，更是我們刻不容緩的責任。本課程透過梳理古今典籍中與魚類相關的記載，並結合現代漁業漁村相關議題的討論與探研，有助於修課學生了解魚類、水族在人類的生活與文化活動中的價值意義。	Surrounded by the sea, Taiwan is rich in marine resources, and aquatic products play an important role in people's diet. Fish and related aquatic animals seem to be ordinary, but they have a close relationship with people. However, with the advancement of science and technology and social changes, fishing villages have disappeared and marine resources are becoming increasingly depleted. In addition to research and restoration of the marine ecological environment, we should also pay more attention to and practice marine-related cultural and humanistic activities, which is our urgent responsibility. By combing ancient and modern records related to fish and combining them with discussions and research on issues related to modern fisheries and fishing villages, this course will help students understand the value and significance of fish and aquatic life in human life and cultural activities.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG12、SDG13、SDG14
2022	Undergraduate	B9M01024	1	D	人工智慧概論	Introduction to Artificial Intelligence	介紹人工智慧之基本概念,包括專家系統,類神經網路,模糊系統,基因演算法等基本原理及應用.	Introduces the basic concepts of artificial intelligence, including expert systems, neural networks, fuzzy systems, genetic algorithms and other basic principles and applications.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M01024	1	K	人工智慧概論	Introduction to Artificial Intelligence	人工智慧(Artificial Intelligence, AI)時代已經來臨，各式各樣不同的服務已經發展並應用於各領域中，本課程主要目標為整合並介紹相關AI技術、應用與服務，透過現況經驗分享與未來趨勢分析，期望讓同學在課堂中了解相關之理論與作業實作之外，降低學用落差，透過管理的思惟模式整合不同的學理背景，進而培養跨域的能力。	The era of Artificial Intelligence (AI) has arrived, and a variety of different services have been developed and applied in various fields. The main goal of this course is to integrate and introduce related AI technologies, applications, and services, and through the sharing of current experiences and analysis of future trends, we hope to allow students to understand the relevant theories and practical work in the classroom, to reduce the gap between learning and use, and through the management of the mindset of integrating different scientific and technological backgrounds, and to cultivate interdisciplinary competence.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG9
2022	Undergraduate	B9M012UZ	1	A	人文、科學的相遇(科技)	The Encounter between Humanity and Science	此課程希望讓學生能了解科學發展和人文元素的關係，進而可以進行自然科學與人文深處的對話。希望學生體認物質自然與心靈人文不是兩條平行線，而每一個人生活的原動力不單單是從自然科學來，是從你瞭解了宇宙萬事萬物，統合起來的。	This course is aimed to enable students to understand the relationship between the development of sciences and elements of humanity, and then to engage in the constructive dialogue between the natural sciences and the humanities. Consequently, the students can recognize that materials-oriented sciences and heart-mind humanity are not two parallel lines, and the motive forces of every life beings are not originated only from the natural sciences, but also from the understanding of everything in the universe.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3、SDG4、SDG4、SDG13、SDG14、SDG16
2022	Undergraduate	B9M013A2	1	A	海洋觀光旅遊實踐與規劃(人格)	Marine Tourism Practices and Plan	(a)瞭解永續觀光發展的概念。 (b)瞭解和平島人文與自然資源。 (c)瞭解國內外旅客休閒與觀光需求。 (d)能夠應用自身專長規劃和平島國際旅遊島推動方案。	(a) To understand the concept of sustainable tourism development. (b) Understand the humanities and natural resources of Peace Island. (c) Understand the leisure and tourism needs of domestic and international tourists. (d) Be able to apply his/her expertise in planning the promotion of Peace Island International Tourism.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG9、SDG11、SDG12、SDG14
2022	Undergraduate	B9M013UA	1	A	聽覺識別與流行創作(美學)	Music Recognition and Song Writing	本課程引導及培養學生建立在音樂調性上使用聽覺分辨其不同頻率的確切位置，以達成對流行歌曲及流行音樂進行寫作的能力，具有敏銳的音頻正確性聽覺辨識是一項在於音樂寫作上必備的條件，課程採用各種範例工具提升學生建構此條件並進而可嘗試自行創作，達到產生個人獨特作品為本課程實現實務的目標。	This course guides and develops students to establish the ability to use their sense of hearing to distinguish the exact position of different frequencies in a musical tonality, in order to achieve the ability to write pop songs and pop music. A keen sense of aural recognition of the correctness of the audio frequency is a must in music writing, and the course adopts a variety of exemplary tools to enhance students' ability to construct this condition, and then they can try their own compositions, so that they can achieve the goal of generating their own unique compositions for the realisation of the practical aspects of this course.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4

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2022	Undergraduate	B9M014EI	1	A	基礎小提琴演奏與聽覺應用藝術(美學)	The art of basic violin technique and aural application	本課程將基礎音樂素養包含：鑑賞、聽力訓練、基礎樂理及樂器演奏...等融為一體，搭配本校教學中心所提供之學生自製小提琴，從小提琴訓練中培養音樂鑑賞、解析以及練習演奏之能力，目標指向為拓展學生對於音樂美學之認知以及透過演奏練習更為貼近音樂實務本質。 透過小提琴基礎演奏訓練以及曲目聆聽分析，建立學生對於音感與美感的認知，並且以準確的練習方式以及自我分析能力為主，旨在希望學生修習課程完畢後，能掌握全面性的樂器自學能力，未來能以正確的方式持續自學樂器演奏，將音樂融入生活，提升生活中的美學。	This programme integrates basic music literacy including: appreciation, aural training, basic music theory and instrumental performance.... The goal of this course is to broaden students' understanding of music aesthetics and to bring them closer to the nature of music practice through performance exercises. Through basic violin training and repertoire listening and analysis, we aim to build up students' awareness of sound and aesthetics, as well as accurate practice methods and self-analysis, in the hope that after completing the course, students will be able to acquire comprehensive self-learning skills on the instrument, and continue to learn to play on their own in the future in the right way, so that they can incorporate music into their lives and enhance the aesthetics of their lives.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M014EN	1	A	台灣之美(人格)	The Beauty of Formosa	This course is designed as the introduction to the multifaceted beauty of Taiwan. This course will enable students to appreciate the various aspects of Taiwan's culture and famous tourist attractions. By the completion of this course, the student should be able to: - Understand the historical development and geographical location of Taiwan; - Appreciate the distinctive nature of Taiwan's food culture; - Discover the famous tourist attractions in Taiwan.	This course is designed as the introduction to the multifaceted beauty of Taiwan. This course will enable students to appreciate the various aspects of Taiwan's culture and famous tourist attractions. By the completion of this course, the student should be able to: - Understand the historical development and geographical location of Taiwan; - Appreciate the distinctive nature of Taiwan's food culture; - Discover the famous tourist attractions in Taiwan.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11
2022	Undergraduate	B9M014FE	1	A	里海與漁村:人與海的和諧共生(自然)	Satoumi and fishing village: harmony between humans and the sea	本課程的目的是讓學生能夠理解里海的基本理念，重新鏈結人類與海洋的關係，從國內外的個案去理解里海的樣貌與脈絡。藉由本課程所讓學生近一步去獲取思考台灣的沿海漁村及依海而生的人們如何與海洋共存共榮。	The main objectives of this course are to help students build basic knowledge for Satoumi concept and to realize the connection between humans and the sea. To achieve our main purpose of this course, case studies are conducted for helping students to understand the current status and issues of Satoumi in Taiwan. Moreover, students will gain capacities and skills of systematic thinking for planning fishing communities to achieve a harmonious situation between local people and the ocean.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG11、SDG14、SDG17
2022	Undergraduate	B9M014I1	1	A	基本人權專題(民主)	Seminar on Constitutional Rights	01. 藉由人權專題認識我們日常生活中與自身息息相關的基本權利 02. 瞭解網路時代，新興的基本權利及其規範內涵. 03. 使同學們學到相關的知識和守法的精神	01. By means of human rights issues for discussion, we may learn the scope and the limit of particular identity-related Constitutional rights. 02. To see, in the Internet age, kinds of newly emerging human rights and its content. 03. To help our students obtaining the relevant knowledge and cultivating the mind and law-abiding spirit in this class.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16
2022	Undergraduate	B9M014LU	1	A	漁村敘事探究(人格)	Narrative exploration of fishing villages	1. 引導學生就台灣漁村文化永續發展與進行認識，並針對相關問題進行執行策略之探究。 2.培養學生實際進入場域進行參與，強化溝通表達、紀律學習與團隊合作能力。 3. 結合漁村在地文化，體認創意經濟與社會創新價值，透過敘事力展現漁村情感和生命力，進而發揮影響力。	1. To guide students to understand the sustainable development of Taiwan's fishing village culture and to explore implementation strategies for related issues. 2. to cultivate students' ability to participate in the field and to strengthen their communication, discipline, and teamwork skills. 3. To integrate the local culture of fishing villages, recognise the value of creative economy and social innovation, and express the emotions and vitality of fishing villages through narrative power, thus exerting influence.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG13、SDG14
2022	Undergraduate	B9M01ZBR	1	A	中國文化史(歷史)	History of Chinese Culture	本課程旨在透過各個專題探討傳統中國文化的發展與演變，使學生對傳統中國文化的特色及若干面相能有較深入而廣泛地瞭解，並藉此吸取經驗，以為檢視當今社會文化的參考。課程設計除導論外，分為政治（制度）、社會（階層）、經濟（生計活動）及思想（科技）四大領域，自各領域中選擇重要課題予以說明。	This programme aims to explore the development and evolution of traditional Chinese culture through various topics, so that students can gain a deeper and broader understanding of the characteristics and certain aspects of traditional Chinese culture, and learn from the experience to serve as a reference for examining the culture of today's society. In addition to the introduction, the programme is divided into four major areas, namely political (institutions), social (classes), economic (livelihood activities) and intellectual (science and technology), and important topics are selected from each of these areas for illustration.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZCW	1	B	東亞海權發展與演變(科技)	Development and Change of Sea Powers in East Asia	控制海洋等於控制世界。古往今來，東亞海權爭奪，誰領風騷？蒙古鐵騎曾經橫掃歐亞大陸，無人敢攖其鋒，自信滿滿的蒙古人，不以陸上霸主為滿足，也曾建起巨艦、張帆邁向海洋。明朝鄭和下西洋時所率領的龐大海軍艦隊與貿易商隊，遠航至印度、阿拉伯半島，以至於東非，更是跨時代的創舉。鄭和的艦隊，無疑告訴世人，大明帝國是當時全世界最強大的海權國家。之後，隨著大航海時代的來臨，西方的歐洲人，擺脫陸路的重重限制，航向大海，來到東方，既追求商業利益，也競逐東亞海權的領導地位。從此，亞洲不再只是亞洲人的亞洲，新的東亞海權格局於焉開展：	Controlling the sea is tantamount to controlling the world. Throughout the ages, who has been the leader in the sea power struggle in East Asia? The Mongols had swept across the Eurasian continent and no one dared to take their place. The confident Mongols were not satisfied with land dominance, but also built huge ships and set sail to the sea. The huge naval fleet and trading fleet led by Zheng He during his voyage to India, Arabian Peninsula and even East Africa was an inter-generational innovation. Zheng He's fleet undoubtedly told the world that the Ming Empire was the most powerful maritime power in the world at that time. Later, with the advent of the Great Age of Sail, western Europeans, free from the heavy restrictions of land routes, sailed to the sea and came to the East, pursuing not only commercial interests, but also competing for the leadership of the East Asian sea power. From then on, Asia was no longer just for Asians, and a new pattern of East Asian seapower began:	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG17
2022	Undergraduate	B9M01ZDK	1	A	三國志與三國演義(經典)	Orthodox History About The Three Kingdom Period & Romance of Three Kingdoms	一般人對三國歷史概念的建立大多依賴三國演義，三國演義的內容對中國人的生活、思維、人際關係、價值判斷多所影響，層面寬廣之外，猶穿越時空，現代流行的遊戲亦有以三國歷史為背景舞臺的。 然演義是由民間形塑成的歷史，與正史由官方撰述成的歷史，多所差異。課堂上對差異形成的分析，將展現客觀歷史的抉擇與主觀願望的嚮往，大歷史的官方堅持與小歷史的民間力量等等，令學習者醒覺習焉不察的文化底蘊。 其次，以人物為經，以史事為緯，論述處亂世形形色色人物，在變化莫測世局的生命歷練，令學習者體悟生命的意義，返思人生的價值，進而學習觀察人性，以利立足社會。 再者，藉原典原文的研讀，得欣賞經典著作文章之美，假古人古事的析論，能洞悉今人今事之理。	Most people's conception of the history of the Three Kingdoms relies on the Three Kingdoms Shih-Yi, which has influenced Chinese people's lives, thinking, interpersonal relationships, and value judgements in a wide range of ways, and has travelled through time and space, and there are popular games that use the history of the Three Kingdoms as a backdrop for the modern day games. However, the history of the Three Kingdoms is shaped by the people and differs from the official history of the Three Kingdoms. Analyses of the differences in the classroom will reveal the objective historical choices and subjective aspirations, the official insistence of the larger history and the folk power of the smaller history, and so on, so that learners will be awakened to the cultural underpinnings of the history that they have not yet learnt. Secondly, using the characters as the warp and the historical events as the latitude, it discusses the life experiences of various characters in the chaotic world and the unpredictable world situation, so that the learners can realise the meaning of life and reflect on the value of life, and then learn to observe human nature, so as to gain a foothold in the society. In addition, through the study of the original texts, the learner will be able to appreciate the beauty of classical writings, and through the analysis of ancient events, the learner will be able to understand the reasoning of present-day people and events.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01ZDM	1	A	世界名歌欣賞(經典)	An Appreciation of The World Famous Songs	〈一〉本課程以互動式、生活化介紹世界各地名歌之經典系列介紹，探討其音樂藝術之內涵及其多樣貌風格。介紹不同國家、語言所激發出的歌曲創作，其影響到歌曲之發展因素等，藉以培養鑑賞能力及歌唱技能之素養為導向。 〈二〉從趣味化的實際習唱中，學習到不同國家經典名歌中其歌詞語言的發音，從中獲取經驗的累積，能學習多種語言之基本發音，了解到歌曲的詞與曲結合過程中所呈現的藝術之美。 〈三〉認識世界名歌各種類型、聲樂演唱方式呈現，使學生與其生活、生長背景之鄉土具有親切感，更能產生認同歸屬的土地之愛與國際世界觀。 〈四〉從不同的演唱方式之歌曲介紹與課堂分組活動報告，呈現出不同的歌謠聲音之美與藝術化的境界，對於學生生活調劑及未來就職學習技能導向皆能有所助益。	1. This course is an interactive, life-like introduction to the classic series of famous songs from around the world, exploring their musical connotations and their diverse styles. It introduces the song compositions inspired by different countries and languages, and the factors affecting the development of songs, with the aim of cultivating appreciation and singing skills. 2. From the interesting practical practice of singing, we will learn the pronunciation of the lyrics in the classic songs of different countries, and through the accumulation of experience, we will be able to learn the basic pronunciation of various languages, and understand the artistic beauty presented in the process of combining the lyrics and the music of a song. 3. Understanding the various types of world famous songs and the way they are sung vocally will enable students to have a sense of kinship with the country where they live and grow up, and to develop a sense of identity and belonging to the love of the land and the international world view. 4. From the introduction of different singing styles and reports on classroom group activities, the beauty and artistic realm of different song voices will be presented, which will be helpful to students in their life adjustment and future job learning skills.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3、SDG5、SDG5、SDG17、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZFY	1	A	創業管理之實務應用(全球)	Start An Enterprise	國外有許多年輕學子,在大學期間就創業成功,這與歐美先進國家優良創業環境有關,台灣近幾年也急起直追,愈來愈多的企業,願意支持年輕人創業.本進階創業與管理課程，旨在使學生延續營運計畫書所學基礎，進一步掌握產業發展趨勢，深入各種分析技巧，創造出特色優勢，結合知名企業實務經驗，逐步引導學生掌握創業之各項關鍵因素，進而培養學生未來創業及經營管理能力。課程採分組習作,完成經營企劃書,並有產業界企業家協助指導修正企劃書,期末並會進行創業競賽,邀企業家參與評審.上完本課程,學生會學會簡報技巧.會議主持.構建網路平台.全面品管及行銷能力提	1.How to establish a new enterprise. 2.Learn all the needed business management skills. 3.Finish an excellent new enterprise business plan. 4.Model company CEO help to improve your business plan. 5.Known the trend of new business style.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG9
2022	Undergraduate	B9M013N6	1	A	傳播倫理與媒體素養(民主)	Communication Ethics and Media Literacy	假新聞全球肆虐，分不清新聞的真假，如何面對後真相時代的亂象？假新聞該誰管？誰能管？管不管得了？真正解決問題的途徑為何？長期以來，電視收視率掛帥、羶色腥內容、業配/廣告置入新聞，媒體可信度如何維持？該誰把關？如何判斷新聞價值？提升媒體專業品質如何可能？而隨著傳播科技發展，社群平台日新月異，在人人都可以是記者，每個人都能報導新聞、自行傳播內容的網路時代，媒體的公信及專業，與一般人何異？後真相時代來臨，培養具媒體素養的公民、耳聰目明的閱聽人，無疑是傳播媒體改革相當重要的動能之一。 傳播倫理（Communication Ethics）是針對媒體從業人員傳播內容行為對接收者產生影響所涉行動方針與道德規範；媒體素養（Media Literacy）不同於培養媒體專業教育，而是針對一般公眾近用、分析、評估及產製訊息的媒體教育。隨著傳播媒介所涉重要議題及影響力日深且廣，傳播倫理教育及媒體素養/識讀已漸成日常生活所需能力、終身學習課題之一，與民主法治及公民意識建立，至為相關。本課程授課內容從媒體專業自主、言論自由、社會責任，到探討假新聞、媒體可信度、置入性行銷、廣告與收視率、近用權與媒體監督、媒體識讀行動力等議題，同時隨著各式新型態傳播媒體，傳播倫理所涉不同媒體產業之重大案例、關鍵課題、自律規範、問責機制、政策法規、媒體信任危機、解決方案等，逐步培養學生認知傳播倫理核心觀念，以及全媒體時代所需思考判斷、溝通表達與媒體素養行動力。	Fake news is rampant all over the world. How can we face the chaos in the post-truth era when we can't tell whether the news is true or false? Who should regulate fake news? Who can control it? Can it be regulated or not? What is the real solution to the problem? How can the credibility of the media be maintained in the face of the long history of TV ratings, lack of colourful content, and the inclusion of advertisements in the news? Who should be the gatekeeper? How to judge the value of news? How is it possible to improve the professional quality of the media? With the development of communication technology and the ever-changing social platforms, everyone can be a reporter, and everyone can report the news and disseminate the content on their own, how is the credibility and professionalism of the media any different from that of the general public in the Internet era? With the advent of the post-truth era, the cultivation of media literate citizens and smart listeners is undoubtedly one of the most important driving forces for media reform. Communication Ethics is a code of conduct and ethics that focuses on the impact of media practitioners' actions on the recipients of their content; Media Literacy is not the same as media professional education, but rather a media education that focuses on the general public's access to, analysis of, evaluation of, and production of information. With the growing importance and influence of the media, education in communication ethics and media literacy has become one of the competencies required in daily life and a lifelong learning issue, which is relevant to democracy, the rule of law and the building of civic awareness. The content of this course ranges from professional autonomy of the media, freedom of expression, and social responsibility to topics such as fake news, media credibility, insertion marketing, advertising and	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG5、SDG5、SDG10、SDG10
2022	Undergraduate	B9M014CA	1	A	智慧財產權法概論(民主)	Introduction to Intellectual Property Laws	立法院於民國九十六年一月九日三讀通過智慧財產案件審理法，同(九十六)年三月五日制定智慧財產法院組織法。智慧財產（Intellectual property）的法制化有助於社會經濟發展。然而，智慧財產在權利性質上也是一種對於智慧活動成果壟斷的特權；在專利法除罪化之後，刑罰的制裁仍存在於著作權法及商標法之中。值得反思的是，我國現行法律是否提供權利人過度的保護，造成人們在日常生活中動輒得咎，構成侵權。本課程除介紹現行法律對於著作權、商標權、專利權等相關規定，也嘗試從「合理使用」的角度檢視具體案例及爭議。期望藉由討論與對話，讓這門相當專業的法學課程，能應用及落實在日常生活中；也期使學生們在其各自的專業領域上，具備成為一個現代公民應	Intellectual property laws mainly consists of Trademark rights, Copyrights and Patents Law. To help our students obtaining the relevant knowledge and cultivate the mind and the spirit of law-abiding, this class focuses on the scope, limits of Intellectual property rights and the reasonable access of its fair use.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16
2022	Undergraduate	B9M014I3	1	A	跨場域藝術表達(USR) (人格)	Cross-Field And Artistic Expression(USR)	1.場域的移動教學外，透過藝術的觀察和實踐進行跨領域思考與表達。 2.「取之於自然用之於自然」：裝置藝術的里山、里海倡議。 3.透過裝置藝術表達議題；利用綜合媒材的藝術創作為議題敘事力。 4.培養大學生的社會責任和聯合國「永續發展目標」（SDGs）素養。 5.課程融合美感、生態和公民教育。	1. Outside of mobile teaching, cross-disciplinary thinking and expression through observation and practice of art. 2. "Taking from nature and using in nature": the installation art of Satoyama and Caspian Sea initiative. 3. To express issues through installation art; to use mixed media art creation as a narrative force for issues. 4. Cultivate social responsibility and the United Nations' Sustainable Development Goals (SDGs) among university students. 5. The programme integrates aesthetics, ecology and civic education.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG14、SDG15

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01Z5W	1	B	世界文明與發展(全球)	Civilizations and Development of the World	立足台灣、放眼世界，如何以更開闊的視野面向世界，是台灣世界文明課程的重要主題。本課程將簡明扼要地介紹世界文明的特色與精髓，經由客觀理性的文化認知，豐富學生的世界觀。 本課程設計為一學期課程；從浩瀚的世界歷史當中，選擇八個具有代表性與歷史意義的主題，做精要的介紹。其中包含與歐洲文化起源有關的四個古文明：西亞、埃及、希臘、羅馬；以及四個與西方現代性的產生，有著密切相關的文化：中古文化、文藝復興、近代都市文化、啟蒙運動。希望透過古文明與現代性的鋪陳，依循從古而今的時代脈絡，拓展學生視野、增進對世界的瞭解。	Based on Taiwan and looking at the world, how to face the world with a broader vision is an important theme of the World Civilisations course in Taiwan. This course will briefly introduce the characteristics and essence of world civilisations, enriching students' worldview through objective and rational cultural awareness. The course is designed as a semester-long programme; from the vastness of world history, eight representative and historically significant themes are selected for a concise introduction. These include four ancient civilisations related to the origins of European culture: Western Asia, Egypt, Greece, and Rome; and four cultures closely related to the emergence of Western modernity: the Middle Ages, the Renaissance, modern urban culture, and the Enlightenment. It is hoped that through the presentation of ancient civilisations and modernity, students will be able to broaden their horizons and gain a better understanding of the world by following the ancient to modern time line.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5、SDG10、SDG16、SDG17
2022	Undergraduate	B9M01Z64	1	1	海洋科學概論	Introduction to Oceanography	本課程針對非海洋科學主修之大一學生，以描述性講授與宏觀的角度，簡介海洋的物理、化學性質、與海洋地質及生物。期能使學生對海洋科學有概括性認識與了解。	This class aims to descriptively introduce the general physics, chemistry, geology, and biology of the ocean to non-ocean science major freshman undergraduate students, and brings an overview of the oceanography as well to help the students understand the fundamentals of the ocean sciences.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG13、SDG14、SDG14、SDG17、SDG17
2022	Undergraduate	B9M01ZBM	1	B	中國社會史(歷史)	History of Chinese Society	本課程旨在透過數種不同性質與模式的社會運動，呈現傳統中國社會中的四民大眾對生存環境不滿而產生的反抗行動或自力救濟行為。同學可因此對若干個案有較深入地了解，並藉此吸取經驗，以為檢視當今社會運動的參考。	This course aims to present, through a number of social movements of different natures and modes, the acts of resistance or self-help of the masses of the four peoples of traditional Chinese society, who were dissatisfied with their living environment. Students will be able to gain a deeper understanding of some of these cases and learn from their experiences as a reference for examining contemporary social movements.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG11、SDG16
2022	Undergraduate	B9M01ZFF	1	A	性別平權教育(民主)	Education of Gender Equality	（1）.瞭解性別平權的重要性，同時藉由性別平權發現人權的多樣面貌，以及在全球化脈絡下思考如何看待性別及其轉變。 （2）.透過多元評量方式評量學生的學習過程 （3）.透過願景工作坊養成學生批判、思考及創造能力	(1). Understanding the importance of gender equality, discovering the diversity of human rights through gender equality, and thinking about gender and its changes in the context of globalisation. (2). To assess students' learning process through multiple assessment methods. (3). To develop students' critical, reflective and creative skills through visioning workshops.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5
2022	Undergraduate	B9M01ZFU	1	A	刑法概要(民主)	A Summary of the Criminal Law	藉由本課程使學生理解刑法基礎概念、指導原則、效力與適用關係；並對犯罪類型、罪責判斷基礎、學說有整體認知。	This course provides students with an understanding of the basic concepts, guiding principles, effects, and application of criminal law, as well as a general awareness of the types of crimes, bases for determining culpability, and doctrines.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG4、SDG5、SDG5、SDG6、SDG10、SDG10、SDG11、SDG16、SDG16
2022	Undergraduate	B9M01ZGF	1	A	優質企業人系列講座(全球)	Quality Man of NTOU	有鑑於年輕學子所面對的社會缺乏典範，受劣質企業與劣質企業人耳濡目染，可能已以此為常態，加以中小學教育及社會氛圍過度本土化，缺乏全球視域，乃邀請優質企業CEO撥冗前來現身說法，闡述自身對品質的要求，對成功的詮釋及導致成功的核心價值、永續經營、以及全球佈局所面臨的挑戰，供學生為出校門預作準備。	In view of the lack of role models in the society that young students are facing, the fact that they have been exposed to poor quality enterprises and entrepreneurs, which may have become the norm, as well as the fact that primary and secondary education and the social atmosphere are overly localised and lack of a global perspective, CEOs of quality enterprises are invited to come here to share their views on their own requirements for quality, their interpretation of success, the core values that have led to their success, sustainable management, and the challenges they face in a global perspective, so as to prepare the students for their departure from the school.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG9、SDG12

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZGH	1	A	音樂劇場(經典)	The Theater of Music	〈一〉認識經典劇場之藝術形式、演出，各式舞台的種類名稱，藉以培養學生欣賞能力的建立。 〈二〉學習到劇場美學涵蓋音樂元素的多元展演空間，如歌劇、音樂劇的比較及其演變發展的歷史，舞蹈劇場肢體與音樂節奏、線條、旋律情感的相關性，動畫電影配合音樂魔力吸引人的魅力風情，地方劇種中戲曲音樂又為其靈魂的主體。 〈三〉從諸多的音樂劇場中認識各種風格的音樂類型、動聽的歌曲，從中認識文學與戲劇、古典音樂、流行音樂、傳統音樂間的互動，進而使其生活能活潑化，且能有豐富的欣賞饗宴。 〈四〉安排創作性戲劇課程訓練分組活動進行，以遊戲為目標，激發身體的反應，對於學生記憶力，專注力、想像力、創造力、肌肉放鬆的訓練，有幫助學習的成效。	1.To approach the Art of Theater include of music forms, facility, backstage crew, different Theater performance stage.etc, to their appreciation with open minds and open ears. 2.To know the essential elements of Theater performance space from various stages, the evolution history of Opera Vs. Musical Theatre. The Theatre of dance with the body movement, music of tempo, melody, emotion. Animation film in music express the magic power attractive. Traditional music with the Theater perform to the folk theme of soul. 3.Form different kind of The Theatre of Music to know－literature and theatre, Classical music , popular music , Traditional music, as well as designs and expenses, have the good fun and intensive appreciation life. 4.The Theater games for improving creation by team work arrangement, this course aims to cultivate students" ability to body reaction, memory, concentration, imagination, body relaxing, improving student to learn and have achievement.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3、SDG5、SDG5、SDG17、SDG17
2022	Undergraduate	B9M01ZGI	1	A	現代藝術賞析(美學)	Appreciation of Modern Arts	一、提昇學生對藝術的藝術的興趣與涵養 二、增進學生對現代藝術思潮的認識與批判的能力 三、經由對現代藝術體驗與操作，可拓展其宏觀的心志	Enhance students' interest in the art of art and its connotation. Enhance students' understanding of modern art trends and their ability to criticise them. To broaden students' macroscopic mind through experiencing and manipulating modern art.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG2、SDG4、SDG5、SDG10、SDG13、SDG14、SDG15、SDG17
2022	Undergraduate	B9M01ZGN	1	A	海洋、漁業與生活(自然)	Ocean、Fisheries and Life	本通識課程的目地是希望提供有興趣於海洋科學的同學，一些基楚的海洋、漁業與資源利用及管理相關知識。課程內容以問答的方式設計，將海洋漁業資源的特性、利用與管理融入生活中的相關議題。幫助同學們從日常生活相關的議題去認識海洋，了解海洋資源，並將探討我們在資源開發及利用上所衍生的種種問題，及人類面對此等問題時應有的思維與對策；個人的期待是: 透過淺顯易懂的口語化表達，傳遞專業訊息，啟發同學對海洋相關議題的興趣。期望同學在修習本課程之後，都能夠體認到人類生活與海洋及資源密不可分的關聯性，並在人類如何有效的利用與開發海洋漁業資源等，有一通識性的了解，並進而能夠對海洋及漁業資源的永續利用盡一份心力!	The purpose of this general education programme is to provide students interested in marine science with some basic knowledge of oceans, fisheries and resource use and management. The course content is designed in a question-and-answer format, integrating the characteristics, utilisation and management of marine and fishery resources into relevant issues in daily life. The course will help students to understand the ocean and its resources from the perspective of daily life, and will explore the problems arising from the development and utilisation of resources, as well as the thinking and strategies that human beings should have when facing these problems. My expectation is that the course will convey professional information through easy-to-understand oral presentation, and will inspire students' interest in ocean-related issues. I hope that after taking this course, students will be able to recognise the inseparable relationship between human life and the oceans and their resources, and have a general understanding of how human beings can effectively utilise and develop marine and fishery resources, and will be able to do their part to contribute to the sustainable use of the oceans and fishery resources.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG12、SDG14
2022	Undergraduate	B9M01ZM6	1	A	問題分析與解決方法(科技)	Innovation Problem Analysis and Solution Method	面對AI的崛起，企業面臨快速變遷的環境，在追求品質服務至上的競爭環境下，企業要如何達到永續經營，創造合理利潤的目標就是一項重要的管理課題。如何讓企業成員能夠透過問題分析與解決活動的訓練課程，以達到人力素質提昇、全面團隊改善、強化組織能力以致提高競爭力，問題分析與解決方法就很重要。本課程將建構學生問題思考與分析的能力，並協助學生具有解決問題方法的能力。	Faced with the rise of AI, enterprises are faced with a rapidly changing environment. In the competitive environment of pursuing quality and service, how to achieve sustainable operation and create reasonable profits is an important management issue. How to enable enterprise members to improve human quality, improve overall team, strengthen the organizational ability and improve competitiveness through the training courses in problem analysis and solving activities, problem analysis, and solution methods are very important. This course will build students" ability to think and analyze problems and help students develop problem-solving skills.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG11、SDG12、SDG17

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2022	Undergraduate	B9M013A4	1	A	影像配樂編曲製作(美學)	Music Composing and Arranging for Film and Video	論作曲，及編曲，為音樂藝術表達於個人自我呈現中，屬最為全面，完整之應用途徑，同時在音樂相關領域中，範圍亦牽涉最為廣闊，繁複多樣。經由對音階，和聲，對位等，及多層次樂器行進組織的技術認識，執行，至將核心創意與之自然結合，產生將自身所期待傳遞的訊息，以理性融合感性，可豐富敘述，多樣貌，表達強大和深層的內在語言。 舉凡流行音樂，交響樂，室內樂，電影，影像音樂等，技術與創意皆各有其方向特殊性，本課程著重於針對共同基礎進行技巧實作練習，創意啟發，類型嘗試，影音作品欣賞體驗，達成學生透過此領域自我實現其可能性的廣度。	Composition and arranging are the most comprehensive and complete applications of musical expression in personal self-presentation, and at the same time, in music-related fields, the scope is also the widest and most complex. Through the technical understanding and execution of scales, harmony, counterpoint, and multi-level organisation of the instrument, the core creativity is naturally combined with it, resulting in the transmission of the desired message, with rationality fused with sensibility, enriching the narrative, diversifying the appearance, and expressing a powerful and deep inner language. In pop music, symphonic music, chamber music, film, video music, etc., technology and creativity each have their own direction and specificity, and this course focuses on the common foundation for practical practice of techniques, creative inspiration, genre experimentation, and audio-visual work appreciation experience, to achieve the breadth of possibilities for students' self-realisation through this field.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG10
2022	Undergraduate	B9M013C9	1	A	硬筆書法與書道美學(美學)	Hardink Calligraphy and Aesthetics of Traditional Calligraphy	課堂透過範例介紹與實務操作，讓同學具備掌握文字書寫的基本美學觀與鑑賞能力，並透過硬筆書寫帶入文字造形、線條與空間美學，同時賞析歷代書法名家之古典與經典。	Through the introduction of examples and practical exercises, the class will equip students with the basic aesthetics and appreciation of calligraphy, and bring in the aesthetics of shape, line, and space through penmanship, as well as an appreciation of the classics and classics of famous calligraphers of the past.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M013NK	1	A	海洋環境教育(自然)	Marine Environmental Education	讓學習者覺知當都市居民透過休閒、觀光、飲食與交通運輸消耗有限的海洋資源時，許多海洋子民，正在運用祖先的智慧為這片海洋而努力，因此透過課程瞭解海洋環境具備應有的海洋素養，是本課程的教學目標。	The sea provides many opportunities for leisure, sightseeing, food and transportation. The " marine environment understanding " is the literacy that people should have.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG9、SDG12、SDG14、SDG16
2022	Undergraduate	B9M013YS	1	A	海洋文學專題(經典)	Topic of Ocean Literature	1、海島台灣為何需要海洋文學。 2、台灣海洋環境、海洋產業活動、海洋文化、海洋精神，與海洋文學之上下游及回饋關係。 3、海洋文學的定義、特質、功能、緣由、地理範圍、以及現階段在海洋教育中的功能。 4、具備海洋文學創作之基本能力。 5、明白台灣各種可能成為海洋文學創作的題材。 6、明白人與環境萬物生存、生活到生命的多層次對話機會。	1. Why Taiwan, the island of the sea, needs a literature of the sea. 2. the upstream-downstream and feedback relationship between Taiwan's marine environment, marine industrial activities, marine culture, and marine spirituality, and marine literature. 3. the definition, characteristics, functions, reasons, geographic scope, and functions of marine literature in marine education at this stage. 4. to have the basic ability to create marine literature. 5. Understand the variety of possible topics for marine literature in Taiwan. 6. understand the opportunities for multi-level dialogue between people and the environment, from survival to life.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG12、SDG14
2022	Undergraduate	B9M014HT	1	A	《論語》人文思想的現代解讀 (經典)	Contemporary meaning in the Analects of Confucius	經由對經典性文獻的研討分析過程，使學生熟悉人文思維的程序與方法，對人文傳統有深一層的認識。並經由課堂討論與報告寫作，一方面增長學生的思考及表達能力，一方面促進學生能反思己身之生命處境，及待人處事之態度，使經典思想得以融入個人生命。	Through the process of studying and analysing classical literature, students will become familiar with the procedures and methods of humanistic thinking and gain a deeper understanding of the humanistic tradition. Through class discussions and report writing, students will be able to develop their thinking and expression skills on the one hand, and on the other hand, they will be able to reflect on their own life situations and attitudes towards others, so that classical thinking can be integrated into their personal lives.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG10、SDG10
2022	Undergraduate	B9M014LT	1	A	公民權利與實踐(民主)	Civil rights and practice	本課程之具體目標為： 1.培養學生對相關權力/權利議題的關注與公共事務參與的態度與熱情 2.學生具備民主機制操作的能力 3.培養學生獨立思考及將知識轉化為具體行動策略之能力 4.培養學生民主及公共參與的概念，追求身為一個現代公民的認知及能力。	The specific objectives of this programme are 1. to develop students' concern for issues related to power/rights and their attitude and enthusiasm for participation in public affairs. 2. to equip students with the ability to operate democratic mechanisms. 3. to develop students' ability to think independently and to translate knowledge into concrete action strategies. 4. To cultivate students' concepts of democracy and public participation, and to pursue the awareness and ability of being a modern citizen.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16

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2022	Undergraduate	B9M01Z5W	1	A	世界文明與發展(全球)	Civilizations and Development of the World	立足台灣、放眼世界，如何以更開闊的視野面向世界，是台灣世界文明課程的重要主題。本課程將簡明扼要地介紹世界文明的特色與精髓，經由客觀理性的文化認知，豐富學生的世界觀。 本課程設計為一學期課程；從浩瀚的世界歷史當中，選擇八個具有代表性與歷史意義的主題，做精要的介紹。其中包含與歐洲文化起源有關的四個古文明：西亞、埃及、希臘、羅馬；以及四個與西方現代性的產生，有著密切相關的文化：中古文化、文藝復興、近代都市文化、啟蒙運動。希望透過古文明與現代性的鋪陳，依循從古而今的時代脈絡，拓展學生視野、增進對世界的瞭解。	Based on Taiwan and looking at the world, how to face the world with a broader vision is an important theme of the World Civilisations course in Taiwan. This course will briefly introduce the characteristics and essence of world civilisations, enriching students' worldview through objective and rational cultural awareness. The course is designed as a semester-long programme; from the vastness of world history, eight representative and historically significant themes are selected for a concise introduction. These include four ancient civilisations related to the origins of European culture: Western Asia, Egypt, Greece, and Rome; and four cultures closely related to the emergence of Western modernity: the Middle Ages, the Renaissance, modern urban culture, and the Enlightenment. It is hoped that through the presentation of ancient civilisations and modernity, students will be able to broaden their horizons and gain a better understanding of the world by following the ancient to modern time line.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5、SDG10、SDG16、SDG17
2022	Undergraduate	B9M01ZJK	1	A	氣象與氣候變遷(自然)	Meteorology and Climate Change	本課程旨在藉由全球環境問題和對策、氣候變遷、全球暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。 本課程亦重點介紹氣象學概論、包含氣象因子與大氣輻射、大氣的水分、大氣的水平運動、大氣環流、熱帶氣旋、天氣分析與發展和資料觀測以及氣候變遷與災變天氣，兼具基礎性與實用性。特別強調台灣氣候變遷與衝擊，以培養學生立足台灣胸懷世界，以期邁向地球永續發展，屬博雅領域之自然科學課程。 工業革命以來，全球的工業化和都市化導致嚴重的環境問題，而全球環境變遷，其原因可能是自然的，亦可能是人為的。本課程旨在藉由全球環境問題和對策、氣候變遷、全球溫暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。同時藉由學生學習目標的建立，環保相關新聞媒體的閱讀和觀賞，環保論壇相關議題的討論，校園、社區、河川和海洋環保議題的分組探索實作，以及環保議題綜合報告，培育現代公民應有之科學、倫理、民主、美學與媒體素養能力，以期邁向地球永續發展。 台灣的各季節，即使在同一時間的不同地區，也可以有很不一樣的天氣。在各個季節裡均有導致人民生命財產損失的災變天氣，如夏秋的颱風、五六月的梅雨和導致的豪雨、冬季的寒流以及春季的乾旱等，是造成災害的罪魁禍首。台灣雖小，但是氣象萬千，因為台灣位在最大海洋太平洋與最大陸地歐亞大陸交界地區，深受海洋和大陸的雙重影響；又位於副熱帶地區，深受由北方而來的中緯度天	provide student basic concept of me4teorology and environment. including climate change , global warming , sustainable development. climate change and severe weather of Taiwan. and then to love earth and Taiwan in final.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG2、SDG4、SDG7、SDG7、SDG11、SDG11、SDG13、SDG13、SDG15、SDG17、SDG17
2022	Undergraduate	B9M01ZJL	1	B	臺灣海洋文化與觀光產業(人格)	Taiwan Oceanic Culture and Tourism Industry	臺灣是西太平洋上的島嶼，海島的地緣關係、地理條件、海岸港口、洋流潮汐、產業經貿、渡海移民等諸多歷史因素，建構出臺灣海洋文化的特質。但由於自1987年解嚴之後，臺灣本土意識以及臺灣海洋文化才受到重視，海洋觀光休閒活動也在這之後逐漸被國人注意。因此臺灣海洋文化的內涵以及與觀光之間的相互關係，需要瞭解與認識。是以期望能透過本課程的教學，讓學生瞭解臺灣在地的海洋文化特性；並與觀光活動結合，以提振臺灣海洋文化特色的觀光活動。	Taiwan is an island in the Western Pacific Ocean, and the island's geography, geographic conditions, coastal harbours, ocean currents and tides, industry and trade, and migration across the sea are all historical factors that have contributed to the characteristics of Taiwan's maritime culture. However, it was only after the lifting of martial law in 1987 that Taiwan's local consciousness and Taiwan's marine culture were taken seriously, and marine sightseeing and leisure activities have gradually been noticed by the Chinese since then. Therefore, it is necessary to understand the connotation of Taiwan's marine culture and its interrelationship with tourism. Therefore, it is hoped that through the teaching of this course, students can understand the characteristics of Taiwan's local marine culture and combine it with tourism activities to promote tourism activities featuring Taiwan's marine culture.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG11、SDG12

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZLK	1	B	新能源與環境治理(科技)	New Energy and Environmental Governance	1.使學習者了解全球氣候變遷、環境治理、新能源發展與技術、各國新能源發展經驗與限制等知識，並反思台灣的發展經驗，引導學生從「科技的社會形塑」觀點，去探討與思辯綠能科技發展與人類社會的互動影響； 2.使學習者於期末針對各國新能源發展提出個案報告（日本、德國、丹麥、英國、美國、中國大陸、南韓、印度、法國、巴西...等國家），提升學生對於未來就業職場及綠能產業技術實務的理解與認識。	1. To enable learners to understand global climate change, environmental governance, new energy development and technology, and the experience and limitations of new energy development in various countries, and to reflect on Taiwan's development experience, and to guide students to explore and debate the interaction between the development of green energy technology and the human society from the perspective of "social shaping of technology"; 2. To enable learners to present case reports on new energy development in various countries (Japan, Germany, Denmark, the United Kingdom, the United States, China, South Korea, India, France, Brazil, etc.) at the end of the semester, so as to enhance students' understanding of the future job market and the technical practice of the green energy industry.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG7、SDG13
2022	Undergraduate	B9M01024	1	C	人工智慧概論	Introduction to Artificial Intelligence	認識人工智慧的內涵並瞭解人工智慧開發的方法,進而介紹人工智慧的應用方式與實例,最後探討人工智慧的未來發展趨勢。	To understand the meaning of Artificial Intelligence (AI) and the methods of AI development, to introduce the application methods and examples of AI, and finally to discuss the future development trend of AI.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M013CE	1	A	物聯網實務應用(科技)	Practices for Internet of Things	本課程旨在引導同學了解物聯網的架構，並學習以物聯網的控制裝置(本課程會以Raspberry作為練習裝置)製作出可控制各種感應器的系統，再搭配網站與資料庫、Restful API、App, 製作出可透過手機遙控的物聯網系統，該系統可以依照修課同學的科系訂定題目，結合不同系所的主題進行發揮。	With control system from Internet of Things, this class will guide the attendee to create a practical system. In this class, Raspberry will be the target system, besides, web, database, Restful API will also be applied as control system. Then we will have a practical system in the end of the class, attendee can combine the subjects in their focus to define the final project.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG7、SDG7、SDG10、SDG10、SDG13、SDG13、SDG17、SDG17
2022	Undergraduate	B9M013T9	1	A	傳播技能-媒體聲音表達專題(美學)	Communication Competencies-Speaking Voice Training Programs	媒體類型發展愈趨多元，從廣播、電視、網路影音、直播、電玩遊戲到新興媒體，「聲音」始終是內容呈現的關鍵元素之一；然而，廣播劇、廣告配音、戲劇、電玩遊戲配音、有聲書、新聞報導、節目主持、線上直播等，不同型態之媒體內容於有效傳播所需之聲音表情、說話表演、言說技巧、論述能力等，均涉及不同專業及聲音技巧運用，因此，「聲音」表達訓練至今一直是傳播亟需培養之基本且重要技能，也是非新聞傳播媒體相關科系學生，學習傳播技能最基礎且極具實用性之入門課程。 本課程目標在於培養學生對於數位匯流趨勢之媒體聲音產業生態現況及未來發展有所瞭解，訓練具備製播聲音媒介內容之技巧與專長，除啟發學生對媒體聲音創意設計及表達，更進一步具備聲音媒介內容企畫/製作/主持/配音/聲音表演等所需之條件與實務能力，得以靈活應用於其不同專業領域工作，開展相關潛力與傑出要件。	The development of media genres has become more and more diversified, from radio, television, online video, live broadcasting, video games to new media, "voice" is always one of the key elements in the presentation of content; however, broadcasting dramas, advertisement dubbing, drama, video game dubbing, audiobooks, news reporting, programme hosting, online live broadcasting, etc., different types of media content in effective communication requires the use of different professions and voice techniques, such as voice expression, speech performance, and presentation skills, Therefore, "voice" expression training has always been a basic and important skill that needs to be cultivated in communication, and it is also the most basic and practical introductory course for non-journalism and media related students to learn communication skills. The objectives of this programme are to develop students' understanding of the current and future development of the digital convergence trend in the media and sound industry, and to equip them with the skills and expertise to produce sound media content. In addition to inspiring students to design and express their creativity in the media, students will also be able to acquire the necessary conditions and practical skills for planning/producing/hosting/dubbing/voice-over/voice-acting of sound media content, which will enable them to apply flexibly in their different professional fields. Students will be able to flexibly apply their skills in different professional fields and develop their potentials and outstanding qualities.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4

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2022	Undergraduate	B9M013XG	1	A	傳播技能 - 海洋新聞採訪寫作(民主)	Communication Competencies-Ocean News Reporting and Writing	本課程主要採課堂講授、實作示範與解析、隨堂/分組討論、專題報告、新聞現場採訪寫作、實作評鑑、名人專題演講、媒體參訪、採訪寫作評鑑等多元方式進行教學，培養並增進「非新聞傳播科系」學生具備製作海洋新聞相關內容所需之組織企劃、採訪、寫作、表達等基本技能及要件。本課程指導修課學生海洋新聞實作，具體掌握不同媒體特性，學習判別海洋相關新聞線索、企劃前置、消息來源/佈線、採訪設計/提問、新聞寫作及新聞處理模式等，並於各階段學習告一段落，透過實作/評鑑強化學習成效，提升修課學生新聞採訪寫作專業能力，尤其聚焦培養海洋新聞內容產製能量，以期未來產製出精準、邏輯完整、具深度、意義與價值之海洋新聞專題報導，有效提升海洋議題影響性。	This course adopts a variety of teaching methods, such as classroom lectures, practical demonstrations and analysis, classroom/group discussions, special reports, on-site interviews and writing, assessment of practical work, lectures by celebrities, media interviews, and assessment of interviews and writing, etc. It aims to cultivate and improve the basic skills and elements of organisation, planning, interviewing, writing, and expression required for the production of marine news-related content for non-journalism and communication students. The programme guides students in marine news production, with specific knowledge of different media characteristics, and learning to identify marine-related news clues, planning, sources/routing, interview design/questioning, news writing and news processing modes, etc. The programme also reinforces the learning effectiveness through practical work/assessment at the end of each stage of learning, so as to enhance the professional competence of students in news reporting and writing, with a particular focus on the cultivation of the ability of marine news production, with a view to the future production of marine news content. In particular, the programme focuses on cultivating the capacity of marine news content production, with a view to producing accurate, logically complete, in-depth, meaningful and valuable marine news feature stories in the future, thereby effectively enhancing the impact of marine issues.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG14
2022	Undergraduate	B9M014LQ	1	A	數位視唱聽寫(人格)	Basic Ear training Aural solfège	本課程教學內容主軸針對聽覺解析與視唱應用功能辨識，提升學生對音樂的敏感度，讓學生具備以下能力: 1.分辨音樂中所設計之音符及調性。 2.解讀音樂傳遞之訊息。 3.以數位方式自我呈現對音樂之理解、詮釋。 4.將樂譜所寫之內容以數位製作手法完整構建與重現。	This programme focuses on aural analysis and functional recognition of sight-singing applications to enhance students' sensitivity to music and equip them with the following abilities. 1. distinguish the notes and tones in music. 2. Interpret the messages conveyed by music. 3. Present their understanding and interpretation of music digitally. 4.To construct and reproduce the contents of music scores by digital production techniques.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01Z64	1	A	海洋科學概論	Introduction to Oceanography	藉由不同海洋領域的老師介紹海洋科學，帶領同學從不同面向瞭解海洋。	Introducing oceanography by different professors who major in different marine subjects. This could lead students to understand the ocean from different perspective.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG13、SDG14
2022	Undergraduate	B9M01ZAT	1	A	海洋生態與經濟永續發展(科技)	Sustainable Development of Marine Ecology and Economics	海洋面積3.6億平方千米，約佔地球面積5.1億平方千米的70.8%，蘊藏豐富的自然資源量，世界各主要海岸國家不但視"21世紀是海洋的世紀"，並積極發展以海洋、島嶼及海岸為主體的海洋經濟產業。臺灣四面環海，所管轄的海域面積約17萬平方公里，為陸域面積3萬6千餘平方公里的4.72倍，擁有豐富的海洋資源與海岸環境。海洋與臺灣的經濟活動有著很密切關係，諸如糧食安全、貿易、運輸、造船、觀光休閒等。海洋與我們的生活息息相關，惟目前海洋面臨許多危機，包括過漁(Overfishing)、不負責任的養殖漁業(Irresponsible Fish Farming)、幽靈撈捕(Ghost Fishing)、垃圾(Garbage)、酸化(Acidification)、死海(Dead Zones)、汞污染(Mercury Pollution)、海上鑽油(Offshore Drilling)、濫捕鯊魚翅及鯨魚(Shark Finning/Whaling)，使得如何對海洋生態合理利用、保育與管理，是海洋永續發展的重要議題之一。本課程之教學目標即是希望學生能瞭解海洋生態的現況，以及其面臨之問題與管理策略。另一方面，不論是社會群體或個人，每天皆有經濟問題與行為發生，舉凡市場、供給、需求、時間分配、公共決策、環境污染等問題亦是本課程所希望探討的範圍。課程將以深入淺出的案例分析討論，藉此訓練學生如何將其實際運用於日常生活之中，以期未來投入相關行業或研究領域中，能有此一海洋環境與海洋經濟的基本概念。	The ocean covers 360 million square kilometres, accounting for 70.8% of the earth's 510 million square kilometres, and is rich in natural resources. Major coastal countries around the world not only regard the 21st century as the century of the ocean, but also actively develop marine economic industries based on the ocean, islands and coasts. Surrounded by the sea on all sides, Taiwan has a sea area of 170,000 square kilometres, which is 4.72 times larger than the land area of 36,000 square kilometres, and is rich in marine resources and coastal environment. The ocean is closely related to Taiwan's economic activities, such as food security, trade, transport, shipbuilding, tourism and leisure. The oceans are closely related to our lives, but currently the oceans are facing many crises, including overfishing, irresponsible aquaculture, ghost fishing, rubbish, acidification, the Dead Sea, mercury pollution, offshore oil drilling, and indiscriminate harvesting of shark fins and whales, which makes the rational use, conservation, and management of the marine ecosystem one of the most important issues for the sustainable development of the oceans. The teaching objective of this programme is to enable students to understand the current situation of marine ecology, the problems it faces and the management strategies. On the other hand, economic issues and behaviours occur every day in both societies and individuals. Issues such as markets, supply, demand, time allocation, public decision-making and environmental pollution are also explored in this course. The course will use in-depth case studies to train students how to apply the concepts in their daily lives, so that they will have a basic understanding of the marine environment and the marine economy when they join related industries or research fields in the future.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG11、SDG12、SDG14

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2022	Undergraduate	B9M01ZAU	1	A	文化與社會(人格)	Culture And Society	文化是了解社會發展的一把鑰匙。有愈來愈多的學者認為，國與國間、不同民族間的發展差距主要源於他們不同的文化價值觀，是這些價值觀左右了他們在政治及經濟上的發展。透過本課目的介紹，將可以幫助修課同學培養多元、宏觀的視野，同時更進一步了解社會生活的意義。	Culture is a key to understanding social development. More and more scholars believe that the development gap between nations and ethnic groups is mainly due to their different cultural values, which have shaped their political and economic development. Through the introduction of this course, students will be able to cultivate a pluralistic and macro-view, and at the same time gain a better understanding of the meaning of social life.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG3、SDG8、SDG10、SDG16
2022	Undergraduate	B9M01ZBC	1	A	台灣政經發展與經驗（民主）	The Development of Politic and Economic Experience in Taiwan	配合時事，加強學生對台灣政治及經濟發展與經驗之瞭解與體認，並鼓勵青年學子發揮所長、回饋社會、奉獻國家。	In line with current events, the programme enhances students' understanding of Taiwan's political and economic development and experience, and encourages young students to give full play to their strengths, contribute to the community, and serve the country.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG8、SDG16、SDG17
2022	Undergraduate	B9M01ZBW	1	A	近代中外關係史（歷史）	History of Modern Sino--foreign Relationship	自鴉片戰爭以降，中國遭遇五千年未有之大變局。傳統中國自成體系的天下觀，與西方列國制度下的國際觀，發生碰觸與摩擦。經由一連串的戰爭與外交，中國被迫走出原有的世界，承認西方國際法觀點，成為條約體系的一份子。本課程目標即在透過簡明扼要的史實陳述，鋪陳出近代以來中國與西方國家接觸的真實歷程。 本課程為一學期課程，著重晚清時期的中外關係，探究列強如何在將中國納入條約體系的同時，樹立在華的特權。	Since the Opium War, China has suffered a great change not seen in 5,000 years. The traditional Chinese view of the world as a self-contained system came into contact and friction with the international view of the Western powers. After a series of wars and diplomacy, China was forced to step out of the original world, recognise the Western view of international law and become a member of the treaty system. The objective of this course is to present, through concise historical facts, the true history of China's contact with the West in the modern era. This one-semester course focuses on Sino-foreign relations during the late Qing dynasty, and explores how the powers established their privileges in China while incorporating China into the treaty system.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16、SDG17
2022	Undergraduate	B9M01ZCW	1	A	東亞海權發展與演變(科技)	Development and Change of Sea Powers in East Asia	控制海洋等於控制世界。古往今來，東亞海權爭奪，誰領風騷？蒙古鐵騎曾經橫掃歐亞大陸，無人敢攖其鋒，自信滿滿的蒙古人，不以陸上霸主為滿足，也曾建起巨艦、張帆邁向海洋。明朝鄭和下西洋時所率領的龐大海軍艦隊與貿易商隊，遠航至印度、阿拉伯半島，以至於東非，更是跨時代的創舉。鄭和的艦隊，無疑告訴世人，大明帝國是當時全世界最強大的海權國家。之後，隨著大航海時代的來臨，西方的歐洲人，擺脫陸路的重重限制，航向大海，來到東方，既追求商業利益，也競逐東亞海權的領導地位。從此，亞洲不再只是亞洲人的亞洲，新的東亞海權格局於焉開展：	Controlling the sea is tantamount to controlling the world. Throughout the ages, who has been the leader in the sea power struggle in East Asia? The Mongols had swept across the Eurasian continent and no one dared to take their place. The confident Mongols were not satisfied with land dominance, but also built huge ships and set sail to the sea. The huge naval fleet and trading fleet led by Zheng He during his voyage to India, Arabian Peninsula and even East Africa was an inter-generational innovation. Zheng He's fleet undoubtedly told the world that the Ming Empire was the most powerful maritime power in the world at that time. Later, with the advent of the Great Age of Sail, western Europeans, free from the heavy restrictions of land routes, sailed to the sea and came to the East, pursuing not only commercial interests, but also competing for the leadership of the East Asian sea power. From then on, Asia was no longer just for Asians, and a new pattern of East Asian seapower began:	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG17
2022	Undergraduate	B9M01ZEY	1	A	臺灣海洋史(歷史)	The Maritime History of Taiwan	1.海洋大學之教育宗旨，以海洋專業、海洋科技與人文三者並重，並期「立足海洋、面向全國、走向世界」。本課程教學目標為建立海洋教育所應有的人文基礎，並契合通識教育之需要，以期學生瞭解海洋與臺灣歷史文化的關連性，體會人與自然環境的互動，希冀其對本科專業知識的歷史背景能有進一步的認識。 2.海洋史的內容豐富，包括：貿易、航運、漁業、港口、造船，移民、海難、海神信仰、海洋產業等不同主題，涵蓋經濟史、交通史、科技史、國際關係、宗教信仰等研究領域。除了拓展同學的海洋觀之視野外，另以海洋為核心，使學生認識跨科學習的重要性。 3.從知海到親海到利用海洋/關懷海洋。 4.海納百川·有容乃大的人格養成。 5.培養同學實踐社會責任的態度。	1. The educational mission of Ocean University is to place equal emphasis on marine professions, marine science and technology, and the humanities, with the aim of being "based on the ocean, facing the whole country, and reaching out to the world". This course aims to establish a humanistic foundation for marine education and to meet the needs of general education, so that students can understand the connection between the ocean and the history and culture of Taiwan, and appreciate the interaction between human beings and the natural environment, and hopefully have a further understanding of the historical background of their undergraduate professional knowledge. 2. Marine history is rich in content, including: trade, shipping, fisheries, ports, shipbuilding, migration, disasters, belief in Neptune, marine industry and other topics, covering economic history, transport history, history of science and technology, international relations, religion and beliefs and other fields of study. In addition to broadening students' view of the ocean, the programme also focuses on the ocean, enabling students to understand the importance of interdisciplinary learning. 3. From knowing the ocean to being close to the ocean to using the ocean/caring for the ocean. 4. To cultivate the character of a tolerant person. 5. Cultivate students' attitude towards social responsibility.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZFT	1	A	海巡法規概要(民主)	Introduction to Coast Guard Law	使學生能夠初步了解我國海巡署執行任務之相關法源依據、安檢勤務執法準則、培養學生基礎海洋事務法令智能外，使其奠定投入海巡相關職場時，能對基礎實務問題有所認知與應用。[修習本課程可增加同學未來準備海巡特考、一般警察人員考試水上警察職科(航海組、輪機組)裡之單科專業考試科目(海巡法規)上，能夠更加得心應手!	.This course is designed to provide students with an initial understanding of the legal basis for the Marine Patrol Agency's duties, the law enforcement criteria for security and inspection duties, and to cultivate students' basic maritime affairs law and order intelligence, so that they will be able to recognise and apply the basic practical issues when they enter the Marine Patrol-related workplace. [This course will help students to prepare for the Marine Patrol Special Examination and the General Police Officers' Examination for the Marine Police (Navigation Section and Engine Section) in the future, so that they will be able to be more competent in the single professional examination subject (Marine Patrol Law).	2	General Course	共同教育中心博雅教育組 General Education Center	SDG16
2022	Undergraduate	B9M01ZKI	1	A	海洋科技導覽解說與實習（I）(科技)	Guiding Technique of Marine Science and Technology（I）	國立博物館具有展示、教育、研究、典藏核心價值，亦屬國家科普教育機構一環。本課程之開設，期望達成以下教學目標： 1.學生學習海洋科技博物館歷史及展示內容。 2.學生學習由海洋專業知識轉變為科普知識之過程。 3.學生學習導覽解說的意義及實施方式。 4.培育學生取得海科館展示廳導覽員資格之能力。 5.學生可以學習博物館在聯合國永續發展目標(SDGs)下，可以扮演的角色。	National museum have the functions of exhibition, education, research and collection. Teaching Objective is summaries as follows: 1.To enable students to understand and learn about history of NMMST, the museum exhibition hall content and other related knowledge. 2.To enable students to learn how to transfer professional knowledge of marine science and technology to popular science. 3.To enable students to learn meaning and implementation of guided tours. 4.To cultivate students to take part in the exhibition hall tour guide interpreter certified qualification. 5.Students can learn the role that museum can play under the sustainable development goals (SDGs) of United Nations.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG14
2022	Undergraduate	B9M01ZKM	1	A	西遊記精讀(經典)	Deep Exploration on the Story of "Pilgrimage to the West"	1、通過對《西遊記》文本內容的欣賞，初步能夠親近經典，進而感受中國古典小說名著的豐富性和創意性。 2、透過對文本的閱讀，進而對小說創作的技巧與方法有所理解，並培養同學鑑賞與分析的能力。 3、針對《西遊記》一書的內容，能帶領同學感受古代生活中的人文精神，並進而內化成為厚實個人生命的能量。	1. Through the appreciation of the text of Journey to the West, students will initially be able to get close to the classics, and then feel the richness and creativity of classical Chinese novels. 2. Through the reading of the text, students will gain an understanding of the techniques and methods of fiction writing and develop the ability to appreciate and analyse. 3. Focusing on the content of the book Journey to the West, students will be able to feel the humanistic spirit of ancient life and internalise it into the energy of a solid personal life.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG16
2022	Undergraduate	B9M01ZKT	1	A	海洋事務概論(全球)	Introduction to Marine Affairs	台灣四面環海，國家安全、經濟發展與民眾福祉都與海洋息息相關，近年來海洋的永續管理逐漸受到重視，本課程的目標，旨在呼應國內外情勢，提供學生對於海洋事務全盤的概念，包括國際間相關海洋管理法規、組織運作，以及國內的海巡政策、海洋保育、產業經營，著重理論與實務的結合，並激發學生思考、分析、討論和表達的能力，以培養未來參與國家海洋事務的能力。	Taiwan is surrounded by sea, national security, economic development and public welfare are all closely related to the sea, in recent years the sustainable management of the sea is gradually being emphasised. The objective of this course is to respond to the domestic and international situation, to provide students with a holistic concept of marine affairs, including the relevant international laws and regulations on marine management and organisational operations, as well as the domestic maritime patrol policy, marine conservation, and industrial operations, with an emphasis on combining theory and practice, and to stimulate the students' ability in thinking, analysing, discussing, and expressing their views, in order to cultivate the future participation in the country's maritime affairs.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG12、SDG13、SDG14
2022	Undergraduate	B9M01024	1	G	人工智慧概論	Introduction to Artificial Intelligence	本課程將介紹人工智慧之基本概念,包括專家系統,類神經網路,模糊系統,基因演算法,機器學習,深度學習,大數據與AI應用等基本原理及應用.	This course introduces the basic concepts of Artificial Intelligence, including expert systems, neural networks, fuzzy systems, genetic algorithms, machine learning, deep learning, big data and AI applications.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M013NM	1	A	環境保護、海岸污染與預防-生態工法(科技)	Environmental Protection, Coastal	引導同學瞭解環境與人類生活之關聯及環境保護之重要性，同時培養學生保護環境與解決環境問題之能力，以及愛護環境之態度與主動參與環保工作之熱忱。並透過淨灘實作，了解各環境問題的現況與因應之道，同時省思我們應如何保護環境，學習與自然共存，使自己與後代生活在健康、安全的環境中。	Students will be guided to understand the relationship between the environment and human life and the importance of environmental protection. At the same time, students will develop the ability to protect the environment and solve environmental problems, as well as the attitude of caring for the environment and the enthusiasm to take the initiative to participate in environmental protection work. Through the beach practice, students will learn about the current situation of various environmental problems and how to deal with them, and at the same time reflect on how to protect the environment and learn to co-exist with nature so that they and their future generations can live in a healthy and safe environment.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG6、SDG7、SDG11、SDG12、SDG13、SDG14、SDG15

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M014IP	1	A	藝術敘事力（USR）（美學）	Art Narrative（USR）	1.場域的移動教學外，透過藝術的觀察和實踐進行跨領域思考與表達。 2.「取之於自然用之於自然」：裝置藝術的里山、里海倡議。 3.透過裝置藝術表達議題；利用綜合媒材的藝術創作為議題敘事力。 4.培養大學生的社會責任和聯合國「永續發展目標」（SDGs）素養。 5.課程融合美感、生態和公民教育。	1. Outside of mobile teaching, cross-disciplinary thinking and expression through observation and practice of art. 2. "Taking from nature and using in nature": the installation art of Satoyama and Caspian Sea initiative. 3. To express issues through installation art; to use mixed media art creation as a narrative force for issues. 4. Cultivate social responsibility and the United Nations' Sustainable Development Goals (SDGs) among university students. 5. The programme integrates aesthetics, ecology and civic education.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG11、SDG14、SDG14、SDG15、SDG15
2022	Undergraduate	B9M014LV	1	A	氣候變遷與科技創新(科技)	Climate Change and Technological Innovation	1.從環境治理的角度使學習者了解全球氣候變遷與人類生存危機、聯合國氣候公約大會與永續發展目標等基礎知識。進而探討人類因應氣候變遷在各重點領域的科技創新發展，並反思台灣的發展經驗，引導學生從「科技的社會形塑」觀點，去探討與思辯氣候變遷與科技創新對於人類社會的衝擊與影響； 2.使學習者於期末針對各國氣候變遷相關產業領域發展提出個案分析報告，提升學生對於國際氣候變遷問題、前瞻科技發展路徑及未來就業市場的知識與視野。	1. From the perspective of environmental governance, this course provides learners with basic knowledge of global climate change and human survival crisis, the United Nations Climate Convention and the goal of sustainable development. They will further explore the development of technological innovation in various key areas in response to climate change and reflect on Taiwan's development experience, guiding students to explore and debate the impacts and influences of climate change and technological innovation on human society from the perspective of "social shaping of science and technology; 2. To enable learners to present case study reports on the development of climate change-related industries in various countries at the end of the semester, so as to enhance students' knowledge and perspectives on international climate change issues, forward-looking technological development pathways and the future job market.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG7、SDG9、SDG13
2022	Undergraduate	B9M01ZBT	1	A	中日關係史(歷史)	A History of Sino-Japanese Relation	過去二千年來的中日關係，日本受惠於中國者甚厚，但自日本明治政府成立（1868年）以後，以殖產興業、富國強兵作基本國策，並且由富國擁有強大的軍隊，進而邁向世界強國，中國卻開始飽受日本之害，此因中國不瞭解日本之故。更且，近年來日本學者研究中國（台灣）者頗為豐碩，但台灣之學者研究日本者特少，因此大學的歷史課程中則不可或缺。是以，透過是項課程的教學，讓學生對於日本歷史的發展以及文化特色等有所認識。進而以增進中（台）、日兩國之間的瞭解與互動，建立雙方的友好關係，此為是項課程教學之計畫及目標。	In the past 2,000 years of Sino-Japanese relations, Japan has benefited greatly from China. However, since the establishment of the Meiji government (1868), Japan has adopted the basic national policy of "Proliferation and Industrialisation", "Wealthy Nation, Strong Soldier", and has developed from a rich nation with a strong army to a world power, while China has begun to suffer from Japan's harms due to China's lack of understanding of Japan. Moreover, in recent years, Japanese scholars have been studying China (Taiwan) quite extensively, but there are very few Taiwanese scholars studying Japan, which is why it is indispensable for university history programmes. Therefore, through the teaching of this programme, students can learn about the development of Japanese history and cultural characteristics. This will further enhance the understanding and interaction between China (Taiwan) and Japan, and establish a friendly relationship between the two countries, which is the plan and goal of this course.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10、SDG17
2022	Undergraduate	B9M01ZBW	1	B	近代中外關係史（歷史）	History of Modern Sino--foreign Relationship	自鴉片戰爭以降，中國遭遇五千年未有之大變局。傳統中國自成體系的天下觀，與西方列國制度下的國際觀，發生碰觸與摩擦。經由一連串的戰爭與外交，中國被迫走出原有的世界，承認西方國際法觀點，成為條約體系的一份子。本課程目標即在透過簡明扼要的史實陳述，鋪陳出近代以來中國與西方國家接觸的真實歷程。 本課程為一學期課程，著重晚清時期的中外關係，探究列強如何在將中國納入條約體系的同時，樹立在華的特權。	Since the Opium War, China has suffered a great change not seen in 5,000 years. The traditional Chinese view of the world as a self-contained system came into contact and friction with the international view of the Western powers. After a series of wars and diplomacy, China was forced to step out of the original world, recognise the Western view of international law and become a member of the treaty system. The objective of this course is to present, through concise historical facts, the true history of China's contact with the West in the modern era. This one-semester course focuses on Sino-foreign relations during the late Qing dynasty, and explores how the powers established their privileges in China while incorporating China into the treaty system.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZDB	1	A	海洋考古(人格)	The Maritime Archaeology	1.配合教育部海洋人文教育的推廣，強化同學海洋史知識。 2.近來政府開始重視水下文化資產，並草擬水下文化資產保存法，本課程即是要讓同學瞭解世界 各國以至臺灣其海洋考古發展歷程與成果，並利用海洋考古成果說明該地區之海洋文明。 3.做為研究海洋文化的眾多分支學科之一，海洋考古涉及古代人類創造海洋文化的物質文化遺存，透過它可以讓我們多一個管道來瞭解海洋文明發展歷程。 4.海洋考古成果可重新建構、驗證、修正、以及豐富海洋歷史文化本身，因此在海洋教育逐漸被 政府當局重視之際，希冀透過本課程，帶領同學以海洋考古的角度以及對於海洋文明的進一步 瞭解，來強化自己的海洋人文知識與海洋史觀。 5.從知海到親海到利用海洋，這是身為海島子民必須要認真面對的重要課題，本課程希冀能誘發 同學對海洋的關注。 6.希冀引發同學對海洋考古產生興趣，成為臺灣海洋考古隊的生力軍。	1. Respond to the campaign of marine humanistic education launched by Ministry of Education, and enhance the students' knowledge about the marine history. 2. In recent years, the Government starts to value the underwater cultural heritage and has drafted the Law on the Conservation of Underwater Cultural Heritage. The purpose of this course is to make the students know the development process and achievements of the marine archeology in Taiwan and other countries, and to use the achievements of marine archeology to explain the marine civilization of that area. 3. As a branch of the marine cultural studies, the marine archeology involves the material heritage of marine culture created by the ancient human race, through which we can have another channel to understand the development process of marine civilization. 4. The achievements of marine archeology can reconstruct, verify, revise and enrich the marine historic culture. Thus, with the marine education being increasingly valu	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8
2022	Undergraduate	B9M01ZFA	1	A	海洋文化與城市歷史(歷史)	Ocean Culture & City History	*本校111學年度上課週次由原來每學期18週，調整為每學期16+2週制(學期16週+2週教師彈性補充教學)，請同學多注意* 海洋文化與城市歷史是一門新興的綜合性學科，既包含了人文科學，也包含了社會科學與基礎理論學科，具有重要的學術價值和發展潛力。本課程旨在幫助修課同學瞭解海洋文化對城市歷史的影響，包括歷史的沿革、事件等等，裨益同學了解海洋國家的種種問題，使學生明白海洋文化的多樣性，進而凝聚未來從事文創或觀光的「軟實力」。 補課方式:每堂課延長6分鐘。	*In the 111th school year, the number of classes will be adjusted from 18 weeks per semester to 16+2 weeks per semester (16 weeks + 2 weeks of flexible supplemental teaching by teachers), so please pay attention to this. Marine Culture and Urban History is an emerging integrative discipline that encompasses humanities, social sciences, and basic theories, and has significant academic value and development potential. This course is designed to help students understand the impact of maritime culture on urban history, including historical development, events, etc. It will also help students to understand the problems of maritime countries, and enable them to understand the diversity of maritime culture, so that they can build up the "soft power" for engaging in cultural innovation or tourism in the future. Extension: Each class will be extended by 6 minutes.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG11、SDG11、SDG14、SDG14
2022	Undergraduate	B9M01ZGM	1	A	混沌學入門(科技)	Introduction to Chaos	使學生接觸「充滿自然界中不可預測但非隨機之混沌現象」，認識二十世紀末開啟的人類科學史上最具衝擊性的新觀念。在綜覽此一新興科學近三十年的驚人發展過程和廣大影響層面之後，進而學習以淺近的數學方法來剖析混沌現象的非線性動力內涵，並經由電腦推算及繪圖來觀察混沌現象背後過去不為人知的美妙碎形世界。	This course is to provide students a first contact with the most impact of new concept initiated at the end of 20th century upon the science history. It is the knowledge to deal with the chaotic phenomena which are non-predictable but not random and full filled in the nature. After the introduction of the astonishing development and wide influence in the past three decades, some basic and easy mathematics to disclose the world of non-linear dynamics will be included. The beauty of the fractal behind th	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01ZHH	1	A	廣告與台灣社會變遷(全球)	Advertising and Social Change in Taiwan	社會變遷是社會現象發生變化的動態過程及其結果，而廣告可以說是社會變遷的一面鏡子，提供給人們觀看整體社會變化的軌跡。本課程為有別於歷史編年式地介紹社會制度的變遷，爰以較為生動活潑的廣告發展，導入台灣社會自日治時代以來的整體變遷，希望能提高學生學習興趣。	Social change is the dynamic process of social phenomena and its results, and advertising can be said to be a mirror of social change, providing people with a view of the trajectory of overall social change. This course is different from the historical chronological introduction of the changes in social systems. I would like to introduce the overall changes in Taiwan society since the Japanese rule era through the development of lively advertisements in the hope of increasing students' interest in learning.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG8、SDG12
2022	Undergraduate	B9M01ZJL	1	A	臺灣海洋文化與觀光產業(人格)	Taiwan Oceanic Culture and Tourism Industry	臺灣是西太平洋上的島嶼，海島的地緣關係、地理條件、海岸港口、洋流潮汐、產業經貿、渡海移民等諸多歷史因素，建構出臺灣海洋文化的特質。但由於自1987年解嚴之後，臺灣本土意識以及臺灣海洋文化才受到重視，海洋觀光休閒活動也在這之後逐漸被國人注意。因此臺灣海洋文化的內涵以及與觀光之間的相互關係，需要瞭解與認識。是以期望能透過本課程的教學，讓學生瞭解臺灣在地的海洋文化特性；並與觀光活動結合，以提振臺灣海洋文化特色的觀光活動。	Taiwan is an island in the Western Pacific Ocean, and the island's geography, geographic conditions, coastal harbours, ocean currents and tides, industry and trade, and migration across the sea are all historical factors that have contributed to the characteristics of Taiwan's maritime culture. However, it was only after the lifting of martial law in 1987 that Taiwan's local consciousness and Taiwan's marine culture were taken seriously, and marine sightseeing and leisure activities have gradually been noticed by the Chinese since then. Therefore, it is necessary to understand the connotation of Taiwan's marine culture and its interrelationship with tourism. Therefore, it is hoped that through the teaching of this course, students can understand the characteristics of Taiwan's local marine culture and combine it with tourism activities to promote tourism activities featuring Taiwan's marine culture.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG11、SDG12

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZLK	1	A	新能源與環境治理(科技)	New Energy and Environmental Governance	1.使學習者了解全球氣候變遷、環境治理、新能源發展與技術、各國新能源發展經驗與限制等知識，並反思台灣的發展經驗，引導學生從「科技的社會形塑」觀點，去探討與思辯綠能科技發展與人類社會的互動影響； 2.使學習者於期末針對各國新能源發展提出個案報告（日本、德國、丹麥、英國、美國、中國大陸、南韓、印度、法國、巴西...等國家），提升學生對於未來就業職場及綠能產業技術實務的理解與認識。	1. To enable learners to understand global climate change, environmental governance, new energy development and technology, and the experience and limitations of new energy development in various countries, and to reflect on Taiwan's development experience, and to guide students to explore and debate the interaction between the development of green energy technology and the human society from the perspective of "social shaping of technology"; 2. To enable learners to present case reports on new energy development in various countries (Japan, Germany, Denmark, the United Kingdom, the United States, China, South Korea, India, France, Brazil, etc.) at the end of the semester, so as to enhance students' understanding of the future job market and the technical practice of the green energy industry.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG7、SDG13
2022	Undergraduate	B9M01ZLU	1	A	書法藝術進階(美學)	Art of Advanced Calligraphy	書法是人類最精微深妙的書寫藝術，需要學習。欣賞書法最好的方式，自己動手寫。從臨摹開始，建立基本的概念與書法技法，很快理解書法的美妙在哪裡。 只有透過臨摹，才能真正了解經典作品的精微所在，因為臨摹的過程，就是尋找、理解古人書法寫字的技術、美學所在的深度閱讀。	Calligraphy is the most subtle and delicate art of human writing, which needs to be learnt. The best way to appreciate calligraphy is to write it yourself. Starting from copying, you can establish the basic concepts and techniques of calligraphy, and quickly understand the beauty of calligraphy. Only through copying can one truly understand the subtleties of classic works, because the process of copying is a deep reading to find and understand the techniques and aesthetics of ancient calligraphy.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01024	1	H	人工智慧概論	Introduction to Artificial Intelligence	本課程旨在介紹人工智慧的發展與應用。修課同學在課程結束後會對人工智慧技術有基本的認知。	This course covers fundamental theories, operation principles, and cutting-edge research in artificial intelligence.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG7、SDG11、SDG17
2022	Undergraduate	B9M01024	1	J	人工智慧概論	Introduction to Artificial Intelligence	人工智慧(Artificial Intelligence, AI)時代已經來臨，各式各樣不同的服務已經發展並應用於各領域中，本課程主要目標為整合並介紹相關AI應用服務其現況經驗分享與未來趨勢分析。期望讓同學在課堂中了解相關之理論與作業實作之外，降低學用落差，透過管理的思惟模式整合不同的學理背景，進而培養跨域的能力。	The era of Artificial Intelligence (AI) has arrived, and various services have been developed and applied in various fields. The main objective of this course is to integrate and introduce relevant AI application services to share current experiences and analyse future trends. It is expected that students can understand the relevant theories and practical work in the classroom, reduce the gap between learning and application, integrate different academic backgrounds through the management mode of thinking, and further cultivate cross-domain capabilities.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG9
2022	Undergraduate	B9M0149U	1	A	韓國的性別意識與文化變遷(人格)	The Gender Consciousness and Cultural Change in South Korea.	由多部電影等媒體，探討韓國的性別關係及其與相關文化之扣連。涉及韓國文化與我國文化差異之認識，故歸類於此所選之領域別。 本課程之教學目標在於，藉電影等媒體，培養並反省批判學生在我國既有的性別意識，藉由與東亞鄰國，韓國，在同與異方面的比較而能有綜合性的新認識。	The study of gender relations in Korea and its connection to related cultures has been conducted through a number of films and other media. It involves the understanding of the differences between Korean culture and our own, and is therefore categorised in this selected area. The goal of this course is to cultivate and reflect on students' existing gender awareness in Korea through the use of films and other media, and to develop a comprehensive understanding of similarities and differences with Korea, our neighbouring country in East Asia.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG5、SDG10
2022	Undergraduate	B9M014AD	1	A	海洋資源的開發與保育(科技)	Exploitation and Conservation of Ocean Resources	此課程聚焦在開發並保育來自海洋的可再生及不可再生的資源。	This course focuses on the exploitation and conservation of the renewable and non-renewable resources from the ocean.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG6、SDG13、SDG14
2022	Undergraduate	B9M014LR	1	A	人格發展與精神分析(人格)	Personality Development & Psycho-analysis	探討早期的社會與情緒發展對自我的發展、成就動機、攻擊及反社會行為、利他主義與利社會行為的影響； 並就精神分析相關理論予以討論。	The impact of early social and emotional development on the development of the ego, achievement motivation, aggression and antisocial behaviour, altruism and prosocial behaviour is explored; and relevant psychoanalytic theories are discussed.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4
2022	Undergraduate	B9M014MQ	1	A	【跨校線上課程】幸福入門–正向心理學(人格)	Positive Psychology	1.（認知）初步認識正向心理學在各領域面向的互動關係及發展。 2.（技能）進行正向心理學的實務練習，應用於各領域及生活層面，讓自己及身邊人更快樂。 3.（情意）結合國內外正向心理學專業團隊資源，培養本土化情懷及國際觀的視野，以備未來實踐於多重領域。	1. (Awareness) To have an initial understanding of the interaction and development of Positive Psychology in various fields. 2. (Skills) Practise and apply Positive Psychology in various fields and aspects of life, so as to make oneself and the people around one's self happier. 3. (Affective) Combine the resources of positive psychology professional teams at home and abroad to cultivate a localised affective and international perspective for future practice in multiple fields.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3

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2022	Undergraduate	B9M01Z5Y	1	A	海港城市與文化(人格)	Seaport City and Its Culture	本課程旨在透過對臺灣與中國不同海港城市的歷史發展與文化內涵之說明，呈現海港城市因不同歷史經驗形塑出之多元文化特色與包融整合風格；期望學生由此掌握近代外力入侵造成開港之城市，其以往狀況與後來發展情形，並比較不同海港城市的同質性與差異性，作為現況觀察及未來展望之參考依據。課程設計主要選擇基隆、上海兩大城市為標的，將兩個海港城市之歷史發展過程，及該城市最重要之社會與文化內容予以詳細介紹及深入分析說明，顯示其重要歷史意涵與多元文化價值觀。	This course aims to illustrate the historical development and cultural connotations of different harbour cities in Taiwan and China, and to present the multicultural characteristics and inclusive and integrated styles of harbour cities shaped by different historical experiences. It is expected that students will learn about the past and future development of the cities that opened their harbours as a result of the invasion of foreign forces in the modern era, and compare the homogeneity and differences of different harbour cities as a basis for observation of the present situation and future outlook. It also compares the similarities and differences of different harbour cities as a reference for observation of the current situation and future prospects. The course design mainly selects two major cities, Keelung and Shanghai, as its targets, and introduces the historical development process of the two harbour cities, as well as the most important social and cultural contents of the two cities in detail and analyzes them in depth, so as to show their important historical connotations and multicultural values.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11
2022	Undergraduate	B9M01Z64	1	2	海洋科學概論	Introduction to Oceanography	本課程針對非海洋科學主修之大一學生，以描述性講授與宏觀的角度，簡介海洋的物理、化學性質、與海洋地質及生物。期能使學生對海洋科學有概括性認識與了解。	This class aims to descriptively introduce the general physics, chemistry, geology, and biology of the ocean to non-ocean science major freshman undergraduate students, and brings an overview of the oceanography as well to help the students understand the fundamentals of the ocean sciences.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG13、SDG14、SDG14、SDG17、SDG17
2022	Undergraduate	B9M01ZAX	1	B	文化創意產業發展(全球)	Development of Cultural Creative Industry	使學習者了解文化創意產業發展、創意思考、創意元素與產品開發、海洋文創產品設計、台灣文化創意產業政策及發展的重要知識，並深入探討文創產業發展案例（包括視覺藝術、音樂及表演藝術、文化資產應用及展演設施、工藝、電影、廣播電視、出版、廣告、產品設計、視覺傳達設計、設計品牌時尚、建築設計、數位內容、創意生活、流行音樂及文化內容…等產業）。	Learners will learn about the development of cultural and creative industries, creative thinking, creative elements and product development, marine cultural and creative product design, policies and development of Taiwan's cultural and creative industries, as well as in-depth discussion of case studies of cultural and creative industry development (including visual arts, music and performing arts, application of cultural assets and facilities for exhibitions, arts and crafts, film, broadcasting and television, publishing, advertising, product design, visual communication design, design branding and fashion, architectural design, digital content, creative living, popular music and cultural content...and other industries).	2	General Course	共同教育中心博雅教育組 General Education Center	SDG9
2022	Undergraduate	B9M01ZCM	1	A	性別議題與親密關係發展(人格)	Gender Issues and Close Relationship Development	1.增加對性別議題的敏感度 2.探討親密關係發展的相關議題 3.從性別角色思考兩性差異的相關理論與內容 4.探討性別關係中的特殊議題—同性戀、網路戀情、性騷擾、約會強暴	1. to increase sensitivity to gender issues 2. to explore issues related to the development of intimate relationships 3. to consider the theories and contents of gender differences in terms of gender roles 4. to explore the special issues in gender relationship - homosexuality, internet romance, sexual harassment, dating rape	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG5、SDG16
2022	Undergraduate	B9M01ZCZ	1	A	臺灣文化史(歷史)	Cultural History of Taiwan	*本校111學年度上課週次由原來每學期18週，調整為每學期16+2週制(學期16週+2週教師彈性補充教學)，請同學多注意* 生於斯，長於斯，不可不知台灣事。本課程旨在幫助修課同學瞭解四百年台灣歷史的梗概，包括重要人物、事件以及歷史的沿革與重要性，裨益同學分析當前台灣所面臨的國內和國際的種種問題。本課程屬於台灣歷史的基礎訓練課程，主要提供台灣歷史與文化的知識授與學生，旨在幫助學生瞭解台灣文化，進而肯定自身文化的優越性。增進學生對於台灣文化發展的瞭解，透過各個不同時期的歷史文化，使學生明白台灣文化的多樣性，進而凝聚「軟實力」的向心力量。	*In the 111th school year, the number of classes will be adjusted from 18 weeks per semester to 16+2 weeks per semester (16 weeks + 2 weeks of flexible supplemental instruction by teachers), so please pay attention to this. Born and raised in Taiwan, you should not be unaware of Taiwan. This course is designed to help students understand the history of Taiwan over the past 400 years, including important people and events, as well as the development and significance of history, and to help students analyse the domestic and international issues facing Taiwan at the present time. This course is a basic training programme in Taiwan history, which provides students with knowledge of Taiwan's history and culture, and aims to help students understand Taiwan's culture and to affirm the superiority of their own culture. It also aims to enhance students' understanding of Taiwan's cultural development, and through the history and culture of different periods, to make students understand the diversity of Taiwan's culture, and thus to build up the centripetal force of "soft power".	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG3

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2022	Undergraduate	B9M01ZEV	1	A	戰爭、武器、流亡詩人與全球公民(科技)	War, Weapons, Poets in Exile & Global Citizenship	戰爭與槍炮的傳播與管制已成國際重視的大議題，尤其是武器科技的發展大大改變了現代戰爭與戰略。本課程討論人類如何由早期的武器發展至今天的資訊戰與空天，空海一體戰。但許多媒體仍以渲染戰爭為重點，本課程串連文獻與戰爭、武器，提升學生對武器科技與和平反思的重視，增進對全球公民的認識。。	The spread and control of war and firearms has become a major international issue, and the development of weapons technology in particular has dramatically changed modern warfare and strategy. This course discusses how mankind has evolved from early weaponry to today's information warfare and integrated air, space, and naval warfare. However, many media outlets still focus on war. This course connects literature to war and weapons, raising students' awareness of the importance of weapons technology and reflection on peace, as well as increasing their understanding of global citizenship.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG16、SDG17
2022	Undergraduate	B9M01ZFF	1	B	性別平權教育(民主)	Education of Gender Equality	（１）.瞭解性別平權的重要性，同時藉由性別平權發現人權的多樣面貌，以及在全球化脈絡下思考如何看待性別及其轉變。 （２）.透過多元評量方式評量學生的學習過程 （３）.透過願景工作坊養成學生批判、思考及創造能力	(1). Understanding the importance of gender equality, discovering the diversity of human rights through gender equality, and thinking about gender and its changes in the context of globalisation. (2). To assess students' learning process through multiple assessment methods. (3). To develop students' critical, reflective and creative skills through visioning workshops.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG5
2022	Undergraduate	B9M01ZHL	1	A	大學歷史(一)(歷史)	History (I)	一、藉由對中國/臺灣歷史趨勢的分析與評論，涵養史識，俾瞭解中國/臺灣文化內涵。 二、建立宏觀歷史視野，培養海納百川.有容乃大的人格特質。	1. To develop historical knowledge and understanding of Chinese/Taiwanese culture through analysing and commenting on the historical trends in China/Taiwan. 2. To develop a broad historical perspective and to cultivate the personality trait of being tolerant of the world.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG10
2022	Undergraduate	B9M01ZIR	1	A	漁村學習與公民行動(民主)	Learning and Civic Action of Fishing Viliage	課程目標為： 1.培養學生對海洋人文相關議題的關注與公共事務參與的態度與熱情 2.培養學生獨立思考及將知識轉化為具體行動策略之能力 3.培養學生具備民主機制操作的能力 4. 培養學生成為一個具有行動力的海洋公民	The objectives of the programme are 1. to cultivate students' concern for issues related to marine humanities and their attitude and enthusiasm for participation in public affairs 2. to develop students' ability to think independently and to translate knowledge into concrete action strategies 3. to develop students' ability to operate in a democratic mechanism. 4. to develop students into active ocean citizens.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG14、SDG17
2022	Undergraduate	B9M01ZKW	1	A	書法藝術〈美學〉	Art of calligraphy	認識書法，如何看懂書法，如何欣賞書法。書法跟文學的互相結合、表達文字之美與文化之傳承。書法與文學的互相輝映，書法藝術的完美形式與內容，所產生的效果，才是書法的內涵。	How to understand calligraphy, how to read calligraphy, how to appreciate calligraphy. Calligraphy and literature combine to express the beauty of words and cultural heritage. Calligraphy and literature reflect each other, the perfect form and content of the art of calligraphy, the effect produced is the connotation of calligraphy.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4
2022	Undergraduate	B9M01024	1	B	人工智慧概論	Introduction to Artificial Intelligence	讓學生了解人工智慧並實現其學習方式。	To enable students to understand Artificial Intelligence and realise its learning styles.	2	Required Course	共同教育中心博雅教育組 General Education Center	SDG11、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M013A8	1	A	面對AI智能機器人的時代(科技)	Facing the era of AI intelligent robots	這幾年來，人工智能（AI）及機器人的快速發展，已對全世界產生驚人的震撼。許多人誤解那是科技專業人士的事，殊不知百年前汽車現世，至今已成為一般人普遍需知的常識、知識及技能，在無數領域中發揮運用的創意，更需要公商、藝文、管理、法規…無邊的參與，AI機器人必將一樣。通識課，當然意不在專業訓練，而是希望學生聽聞此一專業從過去、現在的概貌來看未來，並針對各科系專業方向來講述、推演、遙想、討論…，甚至大至一國之廣大無盡的需求，直至如地球暖化、氣候變遷的根本源頭：全球人口爆增等，提供了解方的期望等等，提醒大學生該去面對，並終身思考那無窮想像的空間，養成在學校以至出社會都必須隨時觀聽反應這件事，才不致被殘酷淘汰，反能在各行各業永遠站在世代的前鋒。值此之際，期望本通識課程開啓學生耳目，依據教材的初步整理分類，激盪自我活潑的思想，延伸在各系的專業學習，隨時操練天馬行空及如何自處的創意：如果AI機器人能…，me自然人則…。	The rapid development of Artificial Intelligence (AI) and robotics in the past few years has sent shockwaves around the world. Many people have the misconception that this is a matter for technology professionals, but they do not realise that the automobile, which came into being a century ago, has now become a general knowledge, knowledge and skills that the general public needs to know, and the creativity that is used in countless fields requires the involvement of the public, business, arts and culture, management, and regulations.....and this is certainly the case with the AI robots. Liberal Studies, of course, is not intended for professional training, but rather for students to hear about the future of this profession from the past and present, and to address the professional direction of various disciplines to talk about, deduce, think about, and discuss..., and even to the infinite needs of a country's vastness, such as global warming, the fundamental source of climate change: the global population explosion, and so on, to provide an understanding of the expectations and so on, to remind students that they should face up to, and to be creative in the use of their creativity. University students should face and think about the infinite space of imagination throughout their lives, and cultivate the habit of listening and reacting to this matter at all times in school and even in society, so that they will not be eliminated by cruelty, and on the contrary, they will be able to stand at the vanguard of the generation forever in all walks of life. At this time, we hope that this Liberal Studies programme will open students' eyes and ears, and based on the preliminary classification of the teaching materials, stimulate their lively thoughts, extend their professional studies in various departments, and practice their creativity at any time in terms of imagination and how to deal with themselves: if an AI robot	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG8、SDG9、SDG11、SDG13、SDG16、SDG17
2022	Undergraduate	B9M013CB	1	A	臺灣美術與社會(美學)	Taiwan Art and Society	課程以日治前、後的臺灣美術為目標，探討本土藝術家於前者移民美術，和後者殖民美術的深耕與發展，再從日治臺灣美術看日本、西洋美術史，可發現臺灣透過日本來理解歐洲後期印象派以後的風尚，並能銜接對西洋美術的理解，進程探討臺灣現代與當代藝術與社會、區域的美學。	The course will focus on Taiwanese art before and after the Japanese rule, exploring the deep cultivation and development of local artists in the former's immigrant art and the latter's colonial art, and then looking at the history of Japanese and Western art from the perspective of Japanese-era Taiwanese art, which will allow Taiwan to understand the style of late European Impressionism and beyond through Japan, as well as converge with the understanding of Western art, and then further explore the aesthetics of modern and contemporary art in Taiwan in relation to the society and the region.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M013T9	1	B	傳播技能-媒體聲音表達專題(美學)	Communication Competencies-Speaking Voice Training Programs	媒體類型發展愈趨多元，從廣播、電視、網路影音、直播、電玩遊戲到新興媒體，「聲音」始終是內容呈現的關鍵元素之一；然而，廣播劇、廣告配音、戲劇、電玩遊戲配音、有聲書、新聞報導、節目主持、線上直播等，不同型態之媒體內容於有效傳播所需之聲音表情、說話表演、言說技巧、論述能力等，均涉及不同專業及聲音技巧運用，因此，「聲音」表達訓練至今一直是傳播亟需培養之基本且重要技能，也是非新聞傳播媒體相關科系學生，學習傳播技能最基礎且極具實用性之入門課程。 舉凡口語文字、圖片、影片、動畫、電玩遊戲，所涉旁白、配音、主持或解說表達，聲音表情是否自然、切合、順暢、生動，攸關內容製播最終呈現之品質，屬「美學與美感表達」領域。媒體聲音是「內容＋表情」，真實的聲音表情能使人產生共感，換言之，除內容傳遞訊息本質外，音質、音色、發聲、呼吸、音量、語調、段落、節奏等，亦相當程度影響媒體內容感染力之傳達，以及閱聽眾訊息接收效果。同學們即便不具傳播或媒體相關基礎課程之經驗背景者，亦可藉此課程認識、理解與想像，如何成為一名專業配音員、節目主持人或聲音表演者，培養於聲音媒體所需之傳播表達、美感美學、品味鑑賞能力與傳播媒體亟需之思辨敬業態度。即便未以專業聲音工作者為目標，當學習過程中，發現聲音的奧妙，能從聲音表情去認識自我、熟悉聲音表情運用與說話方式，培養自然、自信與流暢的言說及論述，更有助於具體提升日常及個人專業領域之溝通表達能力。	The development of media genres has become more and more diversified, from radio, television, online video, live broadcasting, video games to new media, "voice" is always one of the key elements in the presentation of content; however, broadcasting dramas, advertisement dubbing, drama, video game dubbing, audiobooks, news reporting, programme hosting, online live broadcasting, etc., different types of media content in effective communication requires the use of different professions and voice techniques, such as voice expression, speech performance, and presentation skills, The different types of media content require effective communication in terms of voice expression, speech performance, presentation skills, expository skills, and so on, all involving different professions and the use of voice skills. Therefore, "voice" expression training has always been a basic and important skill that needs to be cultivated in communication, and it is also the most basic and practical introductory course for non-journalism and communication media-related students to learn communication skills. Whether or not the voice expression is natural, appropriate, smooth and lively in spoken text, pictures, films, animations, video games, narration, voice-over, hosting or explaining is crucial to the quality of the final presentation of the content, which is in the field of "aesthetics and aesthetic expression". Media sound is "content + expression", and real voice expression can make people feel empathy. In other words, apart from the nature of the message conveyed by the content, the quality of sound, timbre, vocalisation, breathing, volume, intonation, paragraphing, and rhythm, etc., also have a considerable impact on the conveyance of infectiousness of the media content, as well as the effect of the audience's reception of the message. Even if students do not have a	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4
2022	Undergraduate	B9M013XF	1	A	傳播技能 - 新聞採訪寫作(民主)	Communication Competencies - News Reporting and Writing	本課程主要採課堂講授、實作示範與解析、隨堂/分組討論、專題報告、新聞現場採訪寫作、實作評鑑、名人專題演講、媒體參訪、採訪寫作評鑑等多元方式進行教學，主要培養並增進「非新聞傳播科系」學生具備媒體製作所需之組織企劃、採訪、寫作、表達等基本技能及要件，使「非新聞傳播科系」學生學習得以專業製作成果內容廣宣。由於媒介內容類型不一而足，考量數位匯流時代，新聞內容產製基礎功可廣泛運用於各類型媒介內容製作，本課程指導修課學生新聞實作，具體掌握不同媒體特性，學習判別新聞線索、企劃前置、消息來源/佈線、採訪設計/提問、新聞寫作及各類新聞處理模式等，並於各階段學習告一段落，透過實作/評鑑強化學習成效，提升修課學生新聞採訪寫作專業能力與內容產製能量，以期未來產製出精準、邏輯完整、具深度、意義與價值之新聞專題/報導。	Whether or not the voice expression is natural, appropriate, smooth and lively in spoken text, pictures, films, animations, video games, narration, voice-over, hosting or explaining is crucial to the quality of the final presentation of the content, which is in the field of "aesthetics and aesthetic expression". Media sound is "content + expression", and real voice expression can make people feel empathy. In other words, apart from the nature of the message conveyed by the content, the quality of sound, timbre, vocalisation, breathing, volume, intonation, paragraphing, and rhythm, etc., also have a considerable impact on the conveyance of infectiousness of the media content, as well as the effect of the audience's reception of the message. Even if students do not have a basic background in communication or media-related courses, they can use this course to know, understand and imagine how to become a professional voice-over artist, programme host or sound performer, and to cultivate the communication and expression, aesthetics, taste and appreciation skills as well as the discerning and professional attitudes that are essential in the communication media. Even if you are not aiming to become a professional voice artist, the learning process will help you to discover the wonders of the voice, understand yourself through your voice expressions, familiarise yourself with the use of voice expressions and speech styles, and develop a natural, confident and fluent way of speaking and discourse, which will help you to improve your communication skills in daily life as well as in your personal and professional fields.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG5、SDG10、SDG16
2022	Undergraduate	B9M0149X	1	A	微生物與疾病((科技)	Microbes and diseases	使學生對造成人類疾病之微生物有更多認識，了解疾病的發生與傳播，提升健康維護與公共衛生意識。	This course aims to give a general understanding of microbial pathogens of human,infectious diseases, and disease transmission in a perspective of public science, which could help to enhance the awareness of public health.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG11

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M014GU	1	A	全球環境變遷(自然)	Global Environment Change	全球環境變遷是人類生存發展要面對的險惡問題，進行與發展中的國際及地區的行動將深深影響每一個人的生活與生涯，作為一個現代人必須具備正確的全球變遷基本學識，對主要議題的內涵具有辨識力與敘事力。本課程系統化介紹全球環境變遷議題，透過議題導向的課程設計，介紹全球變遷主要議題的科學基礎及其所牽涉之人文、社會、經濟、政治等層面的問題，並特別對台灣本地的全球變遷衝擊、調適與因應進行探討，培養學生對本地環境變遷議題的敘事能力。	Global environmental change is a perilous issue for human survival and development, and the international and regional actions in progress and development will deeply affect everyone's life and career. As a modern human being, it is necessary to be equipped with a correct basic knowledge of global change, and to have the ability to identify and narrate the connotation of the main issues. This course systematically introduces global environmental change issues through an issue-oriented curriculum design, introduces the scientific basis of global change issues and the humanities, social, economic, and political issues involved, and specifically explores the impact, adaptation, and response to global change in Taiwan to cultivate students' narrative ability on local environmental change issues.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG13、SDG14
2022	Undergraduate	B9M014M2	1	A	永續發展EMI-全球化世界的永續發展議題(全球)	Sustainable development issues under the globalized world	本課程設計分兩大部分，第一部份綜觀全球化的世界，目標建立學生對全球化下的政治與經濟結構的了解。第二部份從電影賞析中討論全球化治理架構下之永續發展議題，包含經濟發展、自然資源養護與社會平等。學生在本課程將建立對全球化與永續發展的宏觀視野，同時將增強學生對於相關議題的批判思考能力。	This course is composed of two parts. The first half of this course provides an overview of globalized world. Students will learn globalized political and economic structures. The second half of this course moves to discuss sustainable development issues under the globalization world, including economy growth, natural resource conservation, and social equity and inclusiveness from movies. Students are expected to build a macro view of globalization and sustainable development and to strengthen students' capability on critical thinking on relevant issue.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG10、SDG11、SDG12、SDG14
2022	Undergraduate	B9M01ZAX	1	A	文化創意產業發展(全球)	Development of Cultural Creative Industry	使學習者了解文化創意產業發展、創意思考、創意元素與產品開發、海洋文創產品設計、台灣文化創意產業政策及發展的重要知識，並深入探討文創產業發展案例（包括視覺藝術、音樂及表演藝術、文化資產應用及展演設施、工藝、電影、廣播電視、出版、廣告、產品設計、視覺傳達設計、設計品牌時尚、建築設計、數位內容、創意生活、流行音樂及文化內容…等產業）。	Learners will learn about the development of cultural and creative industries, creative thinking, creative elements and product development, marine cultural and creative product design, policies and development of Taiwan's cultural and creative industries, as well as in-depth discussion of case studies of cultural and creative industry development (including visual arts, music and performing arts, application of cultural assets and facilities for exhibitions, arts and crafts, film, broadcasting and television, publishing, advertising, product design, visual communication design, design branding and fashion, architectural design, digital content, creative living, popular music and cultural content...and other industries).	2	General Course	共同教育中心博雅教育組 General Education Center	SDG9
2022	Undergraduate	B9M01ZBR	1	B	中國文化史(歷史)	History of Chinese Culture	本課程旨在透過各個專題探討傳統中國文化的發展與演變，使學生對傳統中國文化的特色及若干面相能有較深入而廣泛地瞭解，並藉此吸取經驗，以為檢視當今社會文化的參考。課程設計除導論外，分為政治（制度）、社會（階層）、經濟（生計活動）及思想（科技）四大領域，自各領域中選擇重要課題予以說明。	This programme aims to explore the development and evolution of traditional Chinese culture through various topics, so that students can gain a deeper and broader understanding of the characteristics and certain aspects of traditional Chinese culture, and learn from the experience to serve as a reference for examining the culture of today's society. In addition to the introduction, the programme is divided into four major areas, namely political (institutions), social (classes), economic (livelihood activities) and intellectual (science and technology), and important topics are selected from each of these areas for illustration.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG16
2022	Undergraduate	B9M01ZBT	1	B	中日關係史(歷史)	A History of Sino-Japanese Relation	過去二千年來的中日關係，日本受惠於中國者甚厚，但自日本明治政府成立（1868年）以後，以殖產興業、富國強兵作基本國策，並且由富國擁有強大的軍隊，進而邁向世界強國，中國卻開始飽受日本之害，此因中國不瞭解日本之故。更且，近年來日本學者研究中國（台灣）者頗為豐碩，但台灣之學者研究日本者特少，因此大學的歷史課程中則不可或缺。是以，透過是項課程的教學，讓學生對於日本歷史的發展以及文化特色等有所認識。進而以增進中（台）、日兩國之間的瞭解與互動，建立雙方的友好關係，此為是項課程教學之計畫及目標。	In the past 2,000 years of Sino-Japanese relations, Japan has benefited greatly from China. However, since the establishment of the Meiji government (1868), Japan has adopted the basic national policy of "Proliferation and Industrialisation", "Wealthy Nation, Strong Soldier", and has developed from a rich nation with a strong army to a world power, while China has begun to suffer from Japan's harms due to China's lack of understanding of Japan. Moreover, in recent years, Japanese scholars have been studying China (Taiwan) quite extensively, but there are very few Taiwanese scholars studying Japan, which is why it is indispensable for university history programmes. Therefore, through the teaching of this programme, students can learn about the development of Japanese history and cultural characteristics. This will further enhance the understanding and interaction between China (Taiwan) and Japan, and establish a friendly relationship between the two countries, which is the plan and goal of this course.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZEJ	1	A	全球化、朝聖與旅遊(全球)	Globalization, Pilgrimage and Tourism	以全球性的角度，廣泛對旅遊進行人類學與社會學論述。人們怎樣短期離開自己日常工作和生活的地方。 在西元前8 世紀興起宗教朝聖旅行，古埃及規模隆重的慶典，尼羅河沿岸各國的朝聖者順江而至；希臘的奧林皮亞節盛典，更是讓宗教朝覲逐漸成為了一種世界性的活動；還有盛行於中世紀時期的伊斯蘭教徒去麥加朝聖，基督教徒去耶路撒冷、羅馬和聖地牙哥朝聖，本課程亦一併探	A broad anthropological and sociological account of tourism from a global perspective. How people travel for short periods of time away from the places where they work and live on a daily basis.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10、SDG16、SDG17
2022	Undergraduate	B9M01ZFJ	1	A	性別、身體與意識型態(科技)	Gender, Body and Ideology	在近代的醫療科技與生命科學觀點下，人體結構及功能通常被認為基本上是舉世相同、全球一致的。一旦回顧性別與身體之歷史，便不禁有所動搖。不同傳統對於身體的敘述通常有如在描述彼此相異、而且幾乎毫不相關的世界。西方身體觀與醫學史於近代如何建構一種客觀的身體，如何藉由近代科學的經驗主義與實證主義，打造出了意識形態，課程將予以解析，並就中國與西方身體觀與醫學史及哲學在觀念方向上的歧異，指出理解性別與科技之社會實踐的差異觀點。	The rise of religious pilgrimage in the 8th century B.C.E., the grand celebrations in ancient Egypt, where pilgrims from all the countries along the Nile River travelled down the river, and the Greek festival of Olympia, which made the religious pilgrimage a worldwide event, and the prevalence of religious pilgrimage in the Middle Ages, which was a major event in the world. The Greek festival of Olympiad made the religious pilgrimage a worldwide event; the Islamic pilgrimage to Mecca and the Christian pilgrimage to Jerusalem were also popular in the Middle Ages, The pilgrimages of the Muslims to Mecca and of the Christians to Jerusalem, Rome and San Diego were also popular in the Middle Ages, and are explored in this programme.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG4、SDG5
2022	Undergraduate	B9M01ZHQ	1	A	基隆之美(人格)	The Beauty of Keelung City	透過對學校所在地基隆的自然、地理、人文、藝術等各方面的介紹，除認識當地的歷史文物之外，並引伸至環保、宗教、社會等議題，又著重採用美學觀念呈獻，是門結合鄉土、自然與美學的課程。藉著實地踏查體驗教學內涵，是門結合資料與實務的課程。	Through the introduction of the nature, geography, humanities, and arts of Keelung, where the school is located, the course not only learns about the history and heritage of the area, but also extends to environmental protection, religion, and society, and focuses on the presentation of aesthetics, making it a course that combines the countryside, nature, and aesthetics. It is a course that combines the concepts of the countryside, nature and aesthetics. The course is a combination of information and practice, with on-site visits to experience the content of the teaching.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11
2022	Undergraduate	B9M01ZJJ	1	A	氣象與災變天氣(自然)	Meteorology and Severe Weather	本課程旨在藉由全球環境問題和對策、氣候變遷、全球暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。 工業革命以來，全球的工業化和都市化導致嚴重的環境問題，而全球環境變遷，其原因可能是自然的，亦可能是人為的。本課程旨在藉由全球環境問題和對策、氣候變遷、全球溫暖化、臭氧破洞、酸雨、聖嬰現象，環境的衝擊，人與自然之互動（環境保護和生態保育），綠色思想和科技，以及永續發展等課題之導引和探討，使學生瞭解全球變遷乃為跨國性、跨世代和跨領域之科學，地球村公民維護地球環境必備之知識。同時藉由學生學習目標的建立，環保相關新聞媒體的閱讀和觀賞，環保論壇相關議題的討論，校園、社區、河川和海洋環保議題的分組探索實作，以及環保議題綜合報告，培育現代公民應有之科學、倫理、民主、美學與媒體素養能力，以期邁向地球永續發展。 台灣的各季節，即使在同一時間的不同地區，也可以有很不一樣的天氣。在各個季節裡均有導致人民生命財產損失的災變天氣，如夏秋的颱風、五六月的梅雨和導致的豪雨、冬季的寒流以及春季的乾旱等，是造成災害的罪魁禍首。台灣雖小，但是氣象萬千，因為台灣位在最大海洋太平洋與最大陸地歐亞大陸交界地區，深受海洋和大陸的雙重影響；又位於副熱帶地區，深受由北方而來的中緯度天氣系統和由南方而來的熱帶天氣系統的雙重影響；又位於全球最活躍的季風區，深受冬季東北季風和夏季西南季風的雙重影響；又有縱貫南北且高聳的中央山脈，深受其地	Provide student basic concept of meteorology and environment. including climate change , global warming , sustainable development. climate change and severe weather of Taiwan. and then to love earth and Taiwan in final. The teaching objectives: understand the basic concepts of meteorology and the main severe weather in Taiwan(typhoon, drought, cold wave,mud-flow..etc) Talk about the causes and impact of related disasters, Establish disaster prevention concepts from the aspects of usual preparations disaster response, and post-disaster reconstruction；Build risk manage capabilities in the fact of severe crises.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG1、SDG2、SDG4、SDG7、SDG7、SDG11、SDG11、SDG13、SDG13、SDG15、SDG17、SDG17
2022	Undergraduate	B9M012R6	1	A	巨量資料分析與應用(全球)	Big Data Fundamentals	本課程將針對大數據相關技術進行快速瀏覽，並培養學生數據分析思維，建立資料科學與大數據資料探勘的基本概念，結合產業案例的分析與實作，讓學生對於大數據的產業應用能建立概觀。並了解雲端服務基本運用結構，為考取專業證照建立基礎	Introduction to Big Data Analytics, also an introductory course for AWS cloud services. It is also an initial point for AWS certifications.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4、SDG9、SDG9、SDG11、SDG11、SDG17、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01350	1	A	中國崛起與新大國關係(民主)	Rising China and New Great Power Relationship	美俄歐或世界可適應變強後的中國嗎？百年的苦悶與夢想自甲午戰爭，中國悲憤發願重建作為強國的地位。今天，無論是中國人還是世界其他各國，正面對中國崛起的新情勢。和平崛起或者中國威脅論？本課程以此為焦點培育公民意識與民主相關思考能力。	Can the United States, Russia, Europe or the world adapt to a stronger China? A Century of Bitterness and Dreams Since the Sino-Japanese War, China has had the desire to rebuild its position as a powerful nation. Today, both the Chinese and the rest of the world are confronted with the new situation of China's rise. Peaceful Rise or Chinese Threat Theory? This programme focuses on the development of civic awareness and democracy-related thinking skills.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG16、SDG17
2022	Undergraduate	B9M013TA	1	A	共通核心職能課程(人格)	General Introduction to Core Career Competency	學習目標：增進學生畢業前對於職能相關知識的了解，厚植學生未來的職場適應能力。	Learning Objective: To enhance students' understanding of function-related knowledge before graduation and to strengthen students' future adaptability in the workplace.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8
2022	Undergraduate	B9M014LS	1	A	愛的哲思與藝術(美學)	Philosophy & Art of Love	社會現代化過程中,人與人關係冷漠造成情感問題的單向度化, 本課程將個別的生命史經驗放在較廣泛的社會秩序中來理解，混亂與正常都屬於秩序的一部份，正常或穩定代表著理想的狀態，混亂或不穩定則是現代人不得不面對的現實，本課程針對此課題予以探討。	In the process of social modernisation, the indifference of human relationships has led to the unidimensionalisation of emotional problems. This course puts individual life history experiences in the context of a wider social order, where chaos and normalcy are both part of the order, where normalcy or stability represents the ideal state, and chaos or instability is the reality that modern people have to face, which is the subject of this course.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG3、SDG5
2022	Undergraduate	B9M014LW	1	A	原住民族人文與藝術(人格)	Aboriginal People's Humanities and Arts	(1) 引用文化類的電影與紀錄片，在課堂再現，感受文化的氛圍，進而認識原住民族文化。 (2) 透過文化領域傳統介紹，並增加當代文化議題的認知。 (3) 藉由學期報告讓學生針對原住民族議題加以研討，以深化學習成效。	(1) To reproduce cultural films and documentaries in the classroom to experience the cultural atmosphere and to learn more about the culture of the indigenous peoples. (2) To introduce the traditions of cultural fields and to increase the knowledge of contemporary cultural issues. (3) Semester reports will allow students to focus on indigenous issues to deepen their learning.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG10
2022	Undergraduate	B9M014MU	1	A	永續發展EMI - 與臺灣相遇：一場文化與人文的體驗行銷(人格)	Encounter with Taiwan: an experiential marketing of culture and humanities	「與臺灣相遇」是針對外籍生所開設的課程，其特色是讓學生可以經由專題演講、實務參訪以及經由五感來來實際體驗臺灣的人文、歷史與自然風情，讓學生能夠知道臺灣的過去的歷史、臺灣現在的人事物，以及未來臺灣的成長動力，是一門理論與實務並重的跨領域科目。 教學目標 1.瞭解臺灣的人文與風俗、社會與歷史、自然景觀，以及商業活動等 2.藉由主題演講與參訪實做讓學生可以經由五感來認識臺灣 3.經由分組討論與期末報告協助學生構思如何在臺所學回饋自己的國家	"Encounter with Taiwan" is a course for foreign students. Students can actually experience Taiwan's humanities, history, and natural customs through lectures, practical visits, and through the five senses to learn about Taiwan's past, history, the people and affairs of Taiwan now, and the growth momentum of Taiwan in the future. The course is cross-disciplinary subjects that emphasize both theory and practice. 1.Understand Taiwan's humanities and customs, society and history, natural landscape, and commercial activities, etc. 2.Through keynote speeches and visits, students can get to know Taiwan through five senses 3.Through group discussion and final report, assist students in conceiving how to give back to their country by studying in Taiwan	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG11、SDG12、SDG14、SDG15、SDG17
2022	Undergraduate	B9M01ZBM	1	A	中國社會史(歷史)	History of Chinese Society	本課程旨在透過數種不同性質與模式的社會運動，呈現傳統中國社會中的四民大眾對生存環境不滿而產生的反抗行動或自力救濟行為。同學可因此對若干個案有較深入地了解，並藉此吸取經驗，以為檢視當今社會運動的參考。	This course aims to present, through a number of social movements of different natures and modes, the acts of resistance or self-help of the masses of the four peoples of traditional Chinese society, who were dissatisfied with their living environment. Students will be able to gain a deeper understanding of some of these cases and learn from their experiences as a reference for examining contemporary social movements.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG10、SDG11、SDG16
2022	Undergraduate	B9M01ZDB	1	B	海洋考古(人格)	The Maritime Archaeology	1.配合教育部海洋人文教育的推廣，強化同學海洋史知識。 2.近來政府開始重視水下文化資產，並草擬水下文化資產保存法，本課程即是要讓同學瞭解世界 各國以至臺灣其海洋考古發展歷程與成果，並利用海洋考古成果說明該地區之海洋文明。 3.做為研究海洋文化的眾多分支學科之一，海洋考古涉及古代人類創造海洋文化的物質文化遺存，透過它可以讓我們多一個管道來瞭解海洋文明發展歷程。 4.海洋考古成果可重新建構、驗證、修正、以及豐富海洋歷史文化本身，因此在海洋教育逐漸被 政府當局重視之際，希冀透過本課程，帶領同學以海洋考古的角度以及對於海洋文明的進一步 瞭解，來強化自己的海洋人文知識與海洋史觀。 5.從知海到親海到利用海洋，這是身為海島子民必須要認真面對的重要課題，本課程希冀能誘發 同學對海洋的關注。 6.希冀引發同學對海洋考古產生興趣，成為臺灣海洋考古隊的生力軍。	1. Respond to the campaign of marine humanistic education launched by Ministry of Education, and enhance the students' knowledge about the marine history. 2. In recent years, the Government starts to value the underwater cultural heritage and has drafted the Law on the Conservation of Underwater Cultural Heritage. The purpose of this course is to make the students know the development process and achievements of the marine archeology in Taiwan and other countries, and to use the achievements of marine archeology to explain the marine civilization of that area. 3. As a branch of the marine cultural studies, the marine archeology involves the material heritage of marine culture created by the ancient human race, through which we can have another channel to understand the development process of marine civilization. 4. The achievements of marine archeology can reconstruct, verify, revise and enrich the marine historic culture. Thus, with the marine education being increasingly valu	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9M01ZFV	1	A	卓越大師講座(民主)	Lectures of Excellent Masters	在社會上有許多生活藝術家，他們的社會地位是有目共睹的。他們對生命有著獨到的品味，對社會能明察秋毫、能發表真知灼見，對百姓有悲天憫人的情懷。然而這些生活大師或許無法到校定期上課，透過「卓越大師講座」的邀請，可以讓學生及社區民眾親炙大師，感受生活於藝術、藝術於生活的態度，進而體會人生的價值、開拓通達的視野。	There are many life artists in our society and their social status is obvious to all. They have a unique taste for life, a discerning eye for society, and a compassionate heart for the people. However, these masters of life may not be able to come to the school to give regular lectures. Through the invitation of the "Distinguished Masters Lecture", students and the community can get to know the masters personally, experience the attitude of life in art and art in life, and then realise the value of life and open up a broader vision.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG4
2022	Undergraduate	B9M01ZFX	1	A	創業與管理(全球)	Enterprise and Management	創業與管理課程，旨在使學生瞭解如何運用所學，掌握產業發展趨勢，結合社會資源，並邀請產業界知名企業家分享實務經驗，逐步引導學生培養創業之各項關鍵能力，進而使學生具備創業及企業管理之概念。課程採分組習作,完成經營企劃書,並有產業界企業家協助指導修正企劃書,期末並會進行創業競賽,邀企業家參與評審.上完本課程,學生會學會簡報技巧.會議主持.構建網路平台.全面品管及行銷能	1.How to establish a new enterprise. 2.Learn all the needed business management skills. 3.Finish an excellent new enterprise business plan. 4.Model company CEO help to improve your business plan.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG9
2022	Undergraduate	B9M01ZJE	1	A	藝術欣賞與創作(美學)	Appreciation of Arts & Creation	1.認識藝術創作的多元與豐富 2.實際體驗操作,培養表現能力 3.透過對藝術認識與體驗學習對生命的關懷欣賞,與發揮創意	1. Understand the diversity and richness of art creation. 2. Practical experience and cultivate the ability of expression. 3.To learn to care for and appreciate life and to develop creativity through understanding and experiencing art.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG5、SDG10、SDG15、SDG17
2022	Undergraduate	B9M01ZJS	1	A	創業育成實務(全球)	Entrepreneurship Education and Incubators	本課程係本校執行教育部資訊及科技教育司「智慧生活在地創新與企業育成人才培育平臺推動計畫」之產學交流課程。主要是透過創新的雙層三明治式課程模式，導入智慧生活科技，鼓勵創新教學方法，強調做中學（learning by doing）、場域體驗、服務學習、專題實作以及產業應用場域實習，協助大學發展創新的教學模式，培養學生以人為本之創新能力；另一方面，則借重大學所具有之專業、研發人才與能量，透過智慧生活科技與服務的導入或創新，推動大學發展微型企業與社會企業的人才培育機制，進而提升在地創新創業的潛力與量能，以帶動地方發展與增進就業機會，實踐大學的社會責任。 培養學生具有創新思維與國際化的就業力和創業力，並邀請產業界企業家授課，有效發揮海洋智能結合當代產業步調，發展海洋大學學生獨特的海洋在地產業創新創業潛力與量能。	This course is an industry-academia exchange programme under the "Smart Life Local Innovation and Enterprise Nurturing Talent Cultivation Platform Promotion Plan" of the Information and Technology Education Department of the Ministry of Education. The main purpose of this programme is to assist universities in developing innovative teaching modes and cultivating students' human-centred innovative abilities through an innovative two-tier sandwich-style curriculum model, introducing smart living technologies and encouraging innovative teaching methods, emphasising learning by doing, field experiences, service learning, thematic practical work and industrial application field internships, and, on the other hand, making use of professional expertise of the University, On the other hand, by leveraging the professional, research and development talents and energy of the University, the University will promote the development of micro-enterprise and social enterprise talent cultivation mechanisms through the introduction or innovation of intelligent living technologies and services, and then enhance the potential and capacity of local innovation and entrepreneurship to promote local development and increase employment opportunities, thus fulfilling the social responsibility of the University. Cultivate students with innovative thinking and international employability and entrepreneurship, and invite industrial entrepreneurs to teach courses, effectively utilising marine intelligence in conjunction with the pace of contemporary industries, and develop the unique potential and capacity for innovation and entrepreneurship in marine local industries among students of the University of the Oceans.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG8、SDG9
2022	Undergraduate	B9M01ZKY	1	A	原創電影數位音樂音效設計製作〈美學〉	Digital Sound, Music and Film Production	1.發展學生數位音效理論認知。 2.發展學生數位音樂原創概念認知。 3.培養學生數位音效專業技術。 4.培養學生數位音效環境製作應用化模擬技術。	1. to develop students' knowledge of digital sound theory. 2. to develop students' knowledge of original concepts in digital music. 2. to develop students' knowledge of the concept of digital music originality. 3. to develop students' professional skills in digital sound effects. 3. to develop students' professional skills in digital audio. 4. to develop students' application simulation skills in digital audio environment. 4. to develop students' application simulation skills in digital audio environment production.	2	General Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG9、SDG12
2022	Undergraduate	B9N014DI	1	A	國際生華語(三)	Chinese Language for International Student (III)	本課程主要針對A1程度的初學者所設計，預計能於此課程中習得日常基本語言能力。課程結束後，將學到 約200 個生詞，以及基本生活用語。	This course is suited for the foreign Chinese learners who have no basic knowledge of Chinese. The goal of the course is to help the learners acquire basic language skills for the most common conversation in their daily life. Learners will learn around 200 vocabularies in the course and simple sentence patterns.	3	Required Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG17
2022	Undergraduate	B9N014DH	1	B	國際生華語(一)	Chinese Language for International Student (I)	本課程主要針對A1程度的初學者所設計，預計能於此課程中習得日常基本語言能力。課程結束後，將學到約200 個生詞，以及基本生活用語。	This course is designed for beginners at A1 level, who are expected to acquire basic everyday language skills. By the end of the course, you will have learnt about 200 vocabulary words, as well as basic everyday language.	3	Required Course	共同教育中心博雅教育組 General Education Center	SDG4、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K014HC	1	D	國文（下）（國文領域）	Chinese (Ⅱ)	（一）、通過經典文本的探索，使學生熟悉人文思維程序，並深度瞭解中國的 人文傳統。 （二）、嘗試與作品對話，融入文化意識與社會百象，進而反省自我生命，導 向成熟人生觀的建立。 （三）、透過討論與寫作，強化學生思辯能力及語文表達能力。 （四）、在學習知識與付出所學間，建構自己的生命學問，認同「知識在實踐 中看見力量」。	(1) The exploration of classic texts will familiarise students with the humanistic thinking process and provide an in-depth understanding of the Chinese (a) Through the exploration of classical texts, students will become familiar with the process of humanistic thinking and gain a deeper understanding of the Chinese humanistic tradition. (2) They will attempt to engage in dialogue with the works, integrate cultural awareness and social phenomena, and then reflect on their own lives, leading to the establishment of a mature outlook on life. The aim is to reflect on one's own life and to lead to the establishment of a mature outlook on life. (3) Through discussion and writing, students will be able to strengthen their ability to debate and express themselves in language. (4) To construct one's own knowledge of life between learning and giving, and to recognise that "knowledge sees its power in practice. The students will recognise the power of knowledge in practice.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG14、SDG17
2022	Undergraduate	B9K02232	1	C	日文(一)	Japanese (I)	1.本課程以奠定日語的基礎，包括日語發音、假名學習、常用漢字、初級文法句型為主要目標。透過生活相關的日語單字，熟悉日語發音、假名及常用漢字；藉由日常生活常用之日語表達，學習日語句型文法。以期學生能逐步活用日語基礎單字及基本句型，並有自學能力能運用字典及相關參考書來自行學習。 2.透過日語培養國際視野。	1. This course aims to lay the foundation of the Japanese language, including Japanese pronunciation, kana learning, commonly used Kanji, and elementary grammar and sentence patterns. Students will familiarise themselves with Japanese pronunciation, kana and commonly used Kanji through Japanese words related to daily life, and learn Japanese grammar through commonly used Japanese expressions in daily life. Students will be able to use basic Japanese words and sentence patterns, and have the ability to use dictionaries and reference books for self-learning. 2. Cultivate an international perspective through the Japanese language.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG4、SDG8、SDG9、SDG10、SDG11、SDG17
2022	Undergraduate	B9K02234	2	A	日文(三)	Japanese (Ⅲ)	1.本課程的教學目標為培養學生日語能力，同時，引導學生了解日本文化、探索台灣文化，藉由不同文化間的對話，提升學生國際視野，促進在地關懷，增進對多元文化的深度理解、欣賞、尊重與包容。 2.透過文法解析、句型講解，提昇學生日語能力；並輔以日本短文，提昇學生日語文章閱讀能力，了解日本社會所關注的各項議題及現況，增加對日本及國際事務的理解與注意，引導學生自主學習。	1. The teaching objectives of this course are to develop students' language proficiency, and at the same time, to guide students to understand Japanese culture and explore Taiwanese culture, to enhance students' international perspective through intercultural dialogue, to promote local care, and to increase their understanding, appreciation, respect and tolerance of diverse cultures. 2. Through grammatical analyses and sentence explanations, students can improve their language skills; supplemented by Japanese short essays, students can improve their reading skills, understand various issues of concern to the Japanese society and the current situation, increase their understanding and attention to Japanese and international affairs, and guide students to learn independently.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG4、SDG17、SDG17
2022	Undergraduate	B9K0223C	1	A	日文(六)	Japanese (6)	1.本課程的教學目標為培養學生日語能力，同時，引導學生了解日本文化、探索台灣文化，藉由不同文化間的對話，提升學生國際視野，促進在地關懷，增進對多元文化的深度理解、欣賞、尊重與包容。 2.透過文法解析、句型講解，提昇學生日語能力；並輔以日本短文，提昇學生日語文章閱讀能力，了解日本社會所關注的各項議題及現況，增加對日本及國際事務的理解與注意，引導學生自主學習。	1. The teaching objectives of this course are to develop students' language proficiency, and at the same time, to guide students to understand Japanese culture and explore Taiwanese culture, to enhance students' international perspective through intercultural dialogue, to promote local care, and to increase their understanding, appreciation, respect and tolerance of diverse cultures. 2. Through grammatical analyses and sentence explanations, students can improve their language skills; supplemented by Japanese short essays, students can improve their reading skills, understand various issues of concern to the Japanese society and the current situation, increase their understanding and attention to Japanese and international affairs, and guide students to learn independently.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K014HC	1	1	國文（下）（國文領域）	Chinese (II)	【教學目標】 （一）、本課程之教學目標，在於提升學生語文寫作及鑑賞各類文體的能力。 （二）、通過經典文本的講解賞析，使學生瞭解中國的人文傳統，並培育學生的人文素養。 （三）、透過討論、寫作與觀摩，以增進學生多元思辨及語文表達能力。 （四）、透過文學自覺與生命意識的深入閱讀與分析，輔導學生能建立正確的人生觀。 （五）、配合本校弘揚海洋學術之教學特色，從人文角度閱讀海洋，以啟發學生對海洋文化的關懷。	Teaching Objectives (1) The teaching objectives of this course are to enhance students' ability to write and to appreciate various genres. (2) Through the interpretation and appreciation of classical texts, students will be able to understand the Chinese humanistic traditions and cultivate their humanistic qualities. (3) Through discussion, writing, and observation, students will enhance their ability to think and express themselves in a variety of languages. (4) Through in-depth reading and analysis of literary awareness and life consciousness, students will be guided to establish a correct outlook on life. (5) In line with the school's teaching characteristics of promoting oceanography, students will read the ocean from a humanistic perspective to inspire them to care for the ocean culture.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B9K0223B	1	A	日文(四)	Japanese (4)	1.本課程的教學目標為培養學生日語能力，同時，引導學生了解日本文化、探索台灣文化，藉由不同文化間的對話，提升學生國際視野，促進在地關懷，增進對多元文化的深度理解、欣賞、尊重與包容。 2.透過文法解析、句型講解，提昇學生日語能力；並輔以日本短文，提昇學生日語文章閱讀能力，了解日本社會所關注的各項議題及現況，增加對日本及國際事務的理解與注意，引導學生自主學習。	1. The teaching objectives of this course are to develop students' language proficiency, and at the same time, to guide students to understand Japanese culture and explore Taiwanese culture, to enhance students' international perspective through intercultural dialogue, to promote local care, and to increase their understanding, appreciation, respect and tolerance of diverse cultures. 2. Through grammatical analyses and sentence explanations, students can improve their language skills; supplemented by Japanese short essays, students can improve their reading skills, understand various issues of concern to the Japanese society and the current situation, increase their understanding and attention to Japanese and international affairs, and guide students to learn independently.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG4、SDG17、SDG17
2022	Undergraduate	B9K014HC	1	L	國文（下）（國文領域）	Chinese (II)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告等方式，訓練同學協調溝通及口語表達等能力。	Through reading the classics of thinkers and writers, students will not only improve their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we also hope to train students' communication and oral skills through discussions and presentations.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG10、SDG16
2022	Undergraduate	B9K014HC	1	P	國文（下）（國文領域）	Chinese (II)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告等方式，訓練同學協調溝通及口語表達等能力。	Through reading the classics of thinkers and writers, students will not only improve their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we also hope to train students' communication and oral skills through discussions and presentations.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG10、SDG16
2022	Undergraduate	B9K014HC	1	V	國文（下）（國文領域）	Chinese (II)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告等方式，訓練同學協調溝通及口語表達等能力。	Through reading the classics of thinkers and writers, students will not only improve their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we also hope to train students' communication and oral skills through discussions and presentations.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG10、SDG16
2022	Undergraduate	B9K02232	1	A	日文(一)	Japanese (I)	1認識日本基本文字系統平假名與片假名 2了解日語發音規則 3學習基本打招呼用語 4學習基本詞彙與基本句形 5培養學習日語的興趣。	To know Japanese basic writing system hiragana and katakana. To learn about Japanese pronunciation rules. To learn basic greetings and basic sentence. To Develop interest in learning Japanese.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG17
2022	Undergraduate	B9K014HC	1	J	國文（下）（國文領域）	Chinese (II)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告、多媒體教學等方式，訓練同學協調溝通及口語表達、影像傳播等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG6、SDG7、SDG10、SDG13、SDG14、SDG16
2022	Undergraduate	B9K014HC	1	T	國文（下）（國文領域）	Chinese (II)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告等方式，訓練同學協調溝通及口語表達等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG10、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K014HC	1	C	國文（下）（國文領域）	Chinese (Ⅱ)	透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「具有海洋特色之綜合型研究大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生之中文閱讀與書寫之能力，培養學生關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷的目標。下學期的課程目標，較著重於「群我生命海洋」的面向，期能以感性的體會，感受、調整自我與他人、群體的生命互動，從而享受與親友師長等周遭人物相遇、相知、相信的情感交流，珍惜群、我交會的生命海洋。	Through the "life"-based teaching concept and new teaching strategies, and in line with the University's self-positioning as a "comprehensive research university with oceanic characteristics" and the basic qualities of cultivating "ocean vision and humanistic care for the people of the University of the Sea", it is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and genres, the students will be able to appreciate the writers' descriptions of their own origins and experiences, and further understand the emotional experiences, memories, and life experiences embedded in the texts, so as to cultivate students' senses and thinking, intellectuality and sensibility, and aesthetics and philosophy. They will also be able to understand the emotional experiences, memories and life experiences that are embedded in the words, so as to achieve the goal of integrating students' senses and thinking, emphasising both intellectuality and sensibility, and combining both aesthetics and philosophy; and to instruct and stimulate students to use their abilities of observation, discernment, and critical thinking to apply what they have learnt to the concrete actions of the life around them, and to take care of the people and things in their daily lives. This will strengthen students' ability to read and write in Chinese, cultivate a broader vision of the other world, and achieve the goal of enhancing students' aesthetic life and humanistic care. In the next semester, the objectives of the programme will focus on the "ocean of life of the group and the self", hoping to be able to feel and adjust the interaction of the self with others and the group through emotional experience, so as to enjoy the emotional exchange of meeting, knowing and believing in the people around us such as relatives, friends, teachers and elders, and to cherish the ocean of life where the group and	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG8、SDG10、SDG16
2022	Undergraduate	B9K014HC	1	I	國文（下）（國文領域）	Chinese (Ⅱ)	（一）、本課程之教學目標，在於提升學生語文寫作及鑑賞各類文體的能力。 （二）、通過經典文本的講解賞析，使學生瞭解中國的人文傳統，並培育學生的人文素養。 （三）、透過討論、寫作與觀摩，以增進學生多元思辨及語文表達能力。 （四）、透過文學自覺與生命意識的深入閱讀與分析，輔導學生能建立正確的人生觀。 （五）、配合本校弘揚海洋學術之教學特色，從人文角度閱讀海洋，以啟發學生對海洋文化的關懷。	(1) The teaching objectives of this programme are to enhance students' ability to write and to appreciate a wide range of genres. (2) Through the interpretation and appreciation of classic texts, students will be able to understand the Chinese humanistic traditions and cultivate their humanistic qualities. (3) Through discussion, writing, and observation, students will enhance their ability to think and express themselves in a variety of languages. (4) Through in-depth reading and analysis of literary awareness and life consciousness, students will be guided to establish a correct outlook on life. (5) In line with the school's teaching characteristics of promoting oceanography, students will read the ocean from a humanistic perspective to inspire them to care for the ocean culture.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B9K02233	1	C	日文(二)	Japanese (Ⅱ)	快樂學習進階日文會話與句型文法等聽、說、讀、寫日語能力，以及進行角色演練，鍛練靈活之應對日文會話能力。	Happy learning advanced Japanese conversation, sentence patterns and grammar-- listening, speaking, reading and writing, as well as role-based practice in dealing with flexible Japanese conversation skills.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG11、SDG16
2022	Undergraduate	B9K02233	1	B	日文(二)	Japanese (Ⅱ)	快樂學習進階日文會話與句型文法等聽、說、讀、寫日語能力，以及進行角色演練，鍛練靈活之應對日文會話能力。	Happy learning advanced Japanese conversation, sentence patterns and grammar-- listening, speaking, reading and writing, as well as role-based practice in dealing with flexible Japanese conversation skills.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG16、SDG17
2022	Undergraduate	B9K014DF	1	J	國文（上）（國文領域）	Chinese (I)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告、多媒體教學等方式，訓練同學協調溝通及口語表達、影像傳播等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K014DF	1	O	國文（上）（國文領域）	Chinese (I)	本課程在藉由教學理念的轉化、課程內容的重新設計、教師專業的共同成長、文本選材的主題篩選，透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「卓越教學與特色研究兼具的海洋頂尖大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，塑造二十一世紀之大學中文的教學操作模式。預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗、人生哲思，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生在語文寫作、文學作品詮釋以及語言邏輯思辨之能力，培養學生省思自我生命、關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷、人際關係、文化認知與建立正確而適當人生觀的目標。在自我與他者之間，求取生命的平衡與和諧。	Through the transformation of teaching concepts, redesign of course contents, professional growth of teachers, and thematic selection of text materials, this programme aims to shape the Chinese language teaching mode of universities in the 21st century by adopting a "life"-based teaching philosophy, new teaching strategies, and the self-positioning of the university as a "top university in the ocean with excellent teaching and distinctive research", and by nurturing the basic qualities of "Haitian people with oceanic vision and humanistic care". It is expected that the programme will be implemented through different time zones and languages. It is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and styles, students will be able to appreciate the writers' expositions of their own experiences, and further understand the emotional experiences, memories, life experiences, and philosophical thoughts of life that are embedded between the words, so as to achieve the goal of cultivating the combination of the senses and the mind, the importance of intellectuality and sensibility, and the aesthetics and philosophy of the students; and to instruct and stimulate the students' ability to use the skills of observation, discernment, and critique. It also guides and stimulates students to use their observation, critical thinking and criticism skills to apply what they have learnt to the concrete actions in their daily lives and to take care of people and things in various aspects. By strengthening students' abilities in writing, interpreting literary works, and logical thinking, we will cultivate a broader vision for students to reflect on their own lives and care about the world of others, and achieve the goals of enhancing students' aesthetic life, humanistic care, interpersonal relationships, cultural awareness, and establishing a correct and appropriate outlook on life. Students	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG10、SDG14、SDG16
2022	Undergraduate	B9K02233	1	B	日文(二)	Japanese (Ⅱ)	1建立基本日語句型觀念 2了解各種格助詞的使用方式 3培養基本語彙能力與聽解能力 4培養學習日語的興趣。	Establish basic day sentence concepts. Learn how to use various case particle. Develop basic vocabulary ability and listening ability. Develop interest in learning Japanese.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG16、SDG17
2022	Undergraduate	B9K014DF	1	1	國文（上）（國文領域）	Chinese (I)	【教學目標】 （一）、本課程之教學目標，在於提升學生語文寫作及鑑賞各類文體的能力。 （二）、通過經典文本的講解賞析，使學生瞭解中國的人文傳統，並培育學生的人文素養。 （三）、透過討論、寫作與觀摩，以增進學生多元思辨及語文表達能力。 （四）、透過文學自覺與生命意識的深入閱讀與分析，輔導學生能建立正確的人生觀。 （五）、配合本校弘揚海洋學術之教學特色，從人文角度閱讀海洋，以啟發學生對海洋文化的關懷。	Teaching Objectives 1. The teaching objectives of this programme are to enhance students' ability to write and appreciate various genres of literature. 2. To enable students to understand the Chinese humanistic traditions and to cultivate their humanistic qualities through the interpretation and appreciation of classical texts. 3. Through discussion, writing and observation, students will be able to enhance their critical thinking and expressive skills. 4. Through in-depth reading and analyses of literary awareness and life consciousness, students will be guided to establish a correct outlook on life. 5. In line with the school's teaching characteristics of promoting oceanography, students will read the ocean from a humanistic perspective to inspire them to care for the ocean culture.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B9K014DF	1	T	國文（上）（國文領域）	Chinese (I)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告、多媒體教學等方式，訓練同學協調溝通及口語表達、影像傳播等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4
2022	Undergraduate	B9K014DK	1	B	精進國文(上)	Enhanced Mandarin (I)	建構多元課程與學習環境，豐富語言學習。 提升閱讀能力與寫作表現，加強人文素養。 強調適性教育與興趣學習，愛上國文課程。	To build a diversified curriculum and learning environment to enrich language learning. Enhance reading skills and writing performance to strengthen humanistic qualities. Emphasise on adaptive education and interest learning, so as to love the Chinese Language curriculum.	3	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K014DF	1	N	國文（上）（國文領域）	Chinese (I)	透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「具有海洋特色之綜合型研究大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生之中文閱讀與書寫之能力，培養學生關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷的目標。	Through the "life"-based teaching concept and new teaching strategies, and in line with the University's self-positioning as a "comprehensive research university with oceanic characteristics" and the basic qualities of cultivating "ocean vision and humanistic care for the people of the University of the Sea", it is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and genres, the students will be able to appreciate the writers' descriptions of their own origins and experiences, and further understand the emotional experiences, memories, and life experiences embedded in the texts, so as to cultivate students' senses and thinking, intellectuality and sensibility, and aesthetics and philosophy. They will also be able to understand the emotional experiences, memories and life experiences that are embedded in the words, and achieve the goals of integrating the senses with the mind, emphasising both intellectuality and sensibility, as well as aesthetics and philosophy; and guide and stimulate students to use their abilities of observation, discernment, and criticism to apply what they have learnt to the concrete actions of their surrounding lives and to take care of people and things in a multifaceted way. The aim is to strengthen students' Chinese reading and writing skills, to cultivate students' macroscopic vision of other worlds, and to achieve the goal of enhancing students' aesthetic life and humanistic care.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG10、SDG11、SDG16
2022	Undergraduate	B9K014DF	1	D	國文（上）（國文領域）	Chinese (I)	（一）、通過經典文本的探索，使學生熟悉人文思維程序，並深度瞭解中國的人文傳統。 （二）、嘗試與作品對話，融入文化意識與社會百象，進而反省自我生命，導向成熟人生觀的建立。 （三）、透過討論與寫作，強化學生思辯能力及語文表達能力。 （四）、在學習知識與付出所學間，建構自己的生命學問，認同「知識在實踐中看見力量」。	(1) Through the exploration of classic texts, students will become familiar with the humanistic thinking process and gain a deeper understanding of the Chinese humanistic tradition. (2) Students will attempt to engage in a dialogue with the works and integrate cultural awareness and social phenomena, thus reflecting on their own lives and building a mature outlook on life. (3) Through discussion and writing, students will be able to strengthen their debating and language skills. (4) To construct one's own knowledge of life between learning and giving, and to recognise that "knowledge sees power in practice".	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG5、SDG11、SDG14
2022	Undergraduate	B9K014DF	1	E	國文（上）（國文領域）	Chinese (I)	本課程在藉由教學理念的轉化、課程內容的重新設計、教師專業的共同成長、文本選材的主題篩選，透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「卓越教學與特色研究兼具的海洋頂尖大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，塑造二十一世紀之大學中文的教學操作模式。預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗、人生哲思，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生在語文寫作、文學作品詮釋以及語言邏輯思辨之能力，培養學生省思自我生命、關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷、人際關係、文化認知與建立正確而適當人生觀的目標。在自我與他者之間，求取生命的平衡與和諧。	Through the transformation of teaching concepts, redesign of course contents, professional growth of teachers, and thematic selection of text materials, this programme aims to shape the Chinese language teaching mode of universities in the 21st century by adopting a "life"-based teaching philosophy, new teaching strategies, and the self-positioning of the university as a "top university in the ocean with excellent teaching and distinctive research", and by nurturing the basic qualities of "Haitian people with oceanic vision and humanistic care". It is expected that the programme will be implemented through different time zones and languages. It is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and styles, students will be able to appreciate the writers' expositions of their own experiences, and further understand the emotional experiences, memories, life experiences, and philosophical thoughts of life that are embedded between the words, so as to achieve the goal of cultivating the combination of the senses and the mind, the importance of intellectuality and sensibility, and the aesthetics and philosophy of the students; and to instruct and stimulate the students' ability to use the skills of observation, discernment, and critique. It also guides and stimulates students to use their observation, critical thinking and criticism skills to apply what they have learnt to the concrete actions in their daily lives and to take care of people and things in various aspects. By strengthening students' abilities in writing, interpreting literary works, and logical thinking, we will cultivate a broader vision for students to reflect on their own lives and care about the world of others, and achieve the goals of enhancing students' aesthetic life, humanistic care, interpersonal relationships, cultural awareness, and establishing a correct and appropriate outlook on life. Students	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG10、SDG14、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K014DF	1	I	國文（上）（國文領域）	Chinese (I)	（一）、本課程之教學目標，在於提升學生語文寫作及鑑賞各類文體的能力。 （二）、通過經典文本的講解賞析，使學生瞭解中國的人文傳統，並培育學生的人文素養。 （三）、透過討論、寫作與觀摩，以增進學生多元思辨及語文表達能力。 （四）、透過文學自覺與生命意識的深入閱讀與分析，輔導學生能建立正確的人生觀。 （五）、配合本校弘揚海洋學術之教學特色，從人文角度閱讀海洋，以啟發學生對海洋文化的關懷。	(1) The teaching objectives of this programme are to enhance students' ability to write and to appreciate various genres. (2) To enable students to understand the Chinese humanistic traditions and to cultivate their humanistic qualities through the presentation and appreciation of classical texts. (3) Through discussion, writing, and observation, students will enhance their ability to think and express themselves in a variety of languages. (4) Through in-depth reading and analyses of literary awareness and life consciousness, students will be guided to establish a correct outlook on life. (5) In line with the school's teaching characteristics of promoting oceanography, students will read about the ocean from a humanistic perspective to inspire them to care about ocean culture.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B9K02232	1	A	日文(一)	Japanese (I)	1.本課程以奠定日語的基礎，包括日語發音、假名學習、常用漢字、初級文法句型為主要目標。透過生活相關的日語單字，熟悉日語發音、假名及常用漢字；藉由日常生活常用之日語表達，學習日語句型文法。以期學生能逐步活用日語基礎單字及基本句型，並有自學能力能運用字典及相關參考書來自行學習。 2.透過日語培養國際視野。	1. This course aims to lay the foundation of the Japanese language, including Japanese pronunciation, kana learning, commonly used Kanji, and elementary grammar and sentence patterns. Students will familiarise themselves with Japanese pronunciation, kana and commonly used Kanji through Japanese words related to daily life, and learn Japanese grammar through commonly used Japanese expressions in daily life. Students will be able to use basic Japanese words and sentence patterns, and have the ability to use dictionaries and reference books for self-learning. 2. Cultivate an international perspective through the Japanese language.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG17
2022	Undergraduate	B9K02232	1	B	日文(一)	Japanese (I)	以有趣的日語遊戲學習方式與正確的標準東京音教授，奠定日語基礎，並以實用生動的題材提昇日語學習興趣。另外亦補充課外教材，如日語歌謠、日本當地風情民俗文化介紹、視聽教學等。著重基礎實用日常生活會話課程，期達成有效學習日語之聽、說、讀、寫等目標，以利將來學以致用之所需。	To help students make their Basics listening, reading speaking and writing more effective by interesting style. Example as Orientation, Unit studies, Exercises Grammatical practice Writing practice, Instruction, Group discussion, presentations, in-class activities exercises, film learning watching, etc.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG8、SDG9、SDG10、SDG11
2022	Undergraduate	B9K02233	1	A	日文(二)	Japanese (Ⅱ)	1.學生能透過教材熟解日本人的日常生活用語及習慣，培養學生生活日語及基礎日語句型運用能力，熟練已學過的句型內容作日語表達。 2.透過日語培養國際視野。	1. Students will be able to familiarise themselves with the daily life of Japanese people through the teaching materials, to develop the ability to use the Japanese language of daily life and basic Japanese sentence patterns, and to practise the contents of the sentence patterns they have learnt to express themselves in Japanese. 2. To develop an international perspective through the Japanese language.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG17
2022	Undergraduate	B9K014DF	1	H	國文（上）（國文領域）	Chinese (I)	透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「具有海洋特色之綜合型研究大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生之中文閱讀與書寫之能力，培養學生關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷的目標。	Through the "life"-based teaching concept and new teaching strategies, and in line with the University's self-positioning as a "comprehensive research university with oceanic characteristics" and the basic qualities of cultivating "ocean vision and humanistic care for the people of the University of the Sea", it is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and genres, the students will be able to appreciate the writers' descriptions of their own origins and experiences, and further understand the emotional experiences, memories, and life experiences embedded in the texts, so as to cultivate students' senses and thinking, intellectuality and sensibility, and aesthetics and philosophy. They will also be able to understand the emotional experiences, memories and life experiences that are embedded in the words, and achieve the goals of integrating the senses with the mind, emphasising both intellectuality and sensibility, as well as aesthetics and philosophy; and guide and stimulate students to use their abilities of observation, discernment, and criticism to apply what they have learnt to the concrete actions of their surrounding lives and to take care of people and things in a multifaceted way. The aim is to strengthen students' Chinese reading and writing skills, to cultivate students' macroscopic vision of other worlds, and to achieve the goal of enhancing students' aesthetic life and humanistic care.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG10、SDG11、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K0223B	1	A	日文(四)	Japanese (4)	1.本課程的教學目標為培養學生日語能力，同時，引導學生了解日本文化、探索台灣文化，藉由不同文化間的對話，提升學生國際視野，促進在地關懷，增進對多元文化的深度理解、欣賞、尊重與包容。 2.透過文法解析、句型講解，提昇學生日語能力；並輔以日本短文，提昇學生日語文章閱讀能力，了解日本社會所關注的各項議題及現況，增加對日本及國際事務的理解與注意，引導學生自主學習。	1. The teaching objective of this course is to cultivate students' language ability, and at the same time, to guide students to understand Japanese culture and explore Taiwanese culture, and through intercultural dialogue, to enhance students' international perspective, promote local care, and increase in-depth understanding, appreciation, respect, and tolerance of diverse cultures. 2. Through grammatical analyses and sentence explanations, students can improve their language skills; supplemented by Japanese short essays, students can improve their reading skills, understand various issues of concern to the Japanese society and the current situation, increase their understanding and attention to Japanese and international affairs, and guide students to learn independently.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG4、SDG17、SDG17
2022	Undergraduate	B9K014DF	1	A	國文（上）（國文領域）	Chinese (I)	透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「具有海洋特色之綜合型研究大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生之中文閱讀與書寫之能力，培養學生關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷的目標。	Through the "life"-based teaching concept and new teaching strategies, and in line with the University's self-positioning as a "comprehensive research university with oceanic characteristics" and the basic qualities of cultivating "ocean vision and humanistic care for the people of the University of the Sea", it is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and genres, the students will be able to appreciate the writers' descriptions of their own origins and experiences, and further understand the emotional experiences, memories, and life experiences embedded in the texts, so as to cultivate students' senses and thinking, intellectuality and sensibility, and aesthetics and philosophy. They will also be able to understand the emotional experiences, memories and life experiences that are embedded in the words, and achieve the goals of integrating the senses with the mind, emphasising both intellectuality and sensibility, as well as aesthetics and philosophy; and guide and stimulate students to use their abilities of observation, discernment, and criticism to apply what they have learnt to the concrete actions of their surrounding lives and to take care of people and things in a multifaceted way. The aim is to strengthen students' Chinese reading and writing skills, to cultivate students' macroscopic vision of other worlds, and to achieve the goal of enhancing students' aesthetic life and humanistic care.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG10、SDG11、SDG16
2022	Undergraduate	B9K014DF	1	C	國文（上）（國文領域）	Chinese (I)	本課程在藉由教學理念的轉化、課程內容的重新設計、教師專業的共同成長、文本選材的主題篩選，透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「卓越教學與特色研究兼具的海洋頂尖大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，塑造二十一世紀之大學中文的教學操作模式。預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗、人生哲思，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生在語文寫作、文學作品詮釋以及語言邏輯思辨之能力，培養學生省思自我生命、關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷、人際關係、文化認知與建立正確而適當人生觀的目標。在自我與他者之間，求取生命的平衡與和諧。	Through the transformation of teaching concepts, redesign of course contents, professional growth of teachers, and thematic selection of text materials, this programme aims to shape the Chinese language teaching mode of universities in the 21st century by adopting a "life"-based teaching philosophy, new teaching strategies, and the self-positioning of the university as a "top university in the ocean with excellent teaching and distinctive research", and by nurturing the basic qualities of "Haitian people with oceanic vision and humanistic care". It is expected that the programme will be implemented through different time zones and languages. It is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and styles, students will be able to appreciate the writers' expositions of their own experiences, and further understand the emotional experiences, memories, life experiences, and philosophical thoughts of life that are embedded between the words, so as to achieve the goal of cultivating the combination of the senses and the mind, the importance of intellectuality and sensibility, and the aesthetics and philosophy of the students; and to instruct and stimulate the students' ability to use the skills of observation, discernment, and critique. It also guides and stimulates students to use their observation, critical thinking and criticism skills to apply what they have learnt to the concrete actions in their daily lives and to take care of people and things in various aspects. By strengthening students' abilities in writing, interpreting literary works, and logical thinking, we will cultivate a broader vision for students to reflect on their own lives and care about the world of others, and achieve the goals of enhancing students' aesthetic life, humanistic care, interpersonal relationships, cultural awareness, and establishing a correct and appropriate outlook on life. Students	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG3、SDG4、SDG5、SDG10、SDG14、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9K02234	1	A	日文(三)	Japanese (Ⅲ)	1.本課程的教學目標為培養學生日語能力，同時，引導學生了解日本文化、探索台灣文化，藉由不同文化間的對話，提升學生國際視野，促進在地關懷，增進對多元文化的深度理解、欣賞、尊重與包容。 2.透過文法解析、句型講解，提昇學生日語能力；並輔以日本短文，提昇學生日語文章閱讀能力，了解日本社會所關注的各項議題及現況，增加對日本及國際事務的理解與注意，引導學生自主學習。	1. The teaching objective of this course is to cultivate students' language ability, and at the same time, to guide students to understand Japanese culture and explore Taiwanese culture, and through intercultural dialogue, to enhance students' international perspective, promote local care, and increase in-depth understanding, appreciation, respect, and tolerance of diverse cultures. 2. Through grammatical analyses and sentence pattern explanations, students can improve their Japanese language skills; supplemented with Japanese short essays, students can improve their reading skills, understand various issues of concern to the Japanese society and the current situation, increase their understanding and attention to Japanese and international affairs, and guide students to learn independently.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG4、SDG17、SDG17
2022	Undergraduate	B9K014DF	1	P	國文（上）（國文領域）	Chinese (I)	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告、多媒體教學等方式，訓練同學協調溝通及口語表達、影像傳播等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4
2022	Undergraduate	B9K02232	1	C	日文(一)	Japanese (I)	以有趣的日語遊戲學習方式與正確的標準東京音教授，奠定日語基礎，並以實用生動的題材提昇日語學習興趣。另外亦補充課外教材，如日語歌謠、日本當地風情民俗文化介紹、視聽教學等。著重基礎實用日常生活會話課程，期達成有效學習日語之聽、說、讀、寫等目標，以利將來學以致用之所需。	To help students make their Basics listening, reading speaking and writing more effective by interesting style. Example as Orientation, Unit studies, Exercises Grammatical practice Writing practice, Instruction, Group discussion, presentations, in-class activities exercises, film learning watching, etc.	2	Elective Course	共同教育中心語文教育組 General Education Center -Language Education Division	SDG4、SDG4、SDG8、SDG9、SDG10、SDG11、SDG17
2022	PH.D Program	D86011SF	1	A	熱帶西太平洋古氣候特論	Special Topics on Western Tropical Pacific Paleoclimatology	本課程為提供碩博研究生與五年一貫生研習地球環境、古海洋與古氣候，全球氣候變遷之書報討論與口頭報告課程，若有外籍生選修則使用全程英語教學。	It is the goal of the course to provide graduate senior undergraduate students with an overview of current knowledge in the areas of earth environment, paleoceanography and paleoclimatology, and global climate change through oral reports and seminar discussions. In the event that any non-Mardrian speakers join the course, the course will be taught in English.	3	Elective Course	地球科學研究所博士班 Institute of Earth Sciences	SDG7、SDG11、SDG13、SDG14
2022	PH.D Program	D86014AO	1	A	高等岩石學	Advanced Petrology	針對岩石學進階理論進行教學與論文閱讀的討論，涵蓋火成岩、變質岩、沉積岩的地球化學特性，與目前重要研究課題的討論。不僅侷限學課本知識的理論岩石學基礎，加強建構岩石研究的顯微觀察與地球化學問題的探討。	The subjects focus on advanced theoretical teaching, paper reviews and discussions. The issues include the geochemical features of igneous, metamorphic and sedimentary rocks, and we will emphasize in the important topics. We will teach the typical knowledge of theoretical rocks and enhance the microscope observation and geochemical characters of rocks.	3	Elective Course	地球科學研究所博士班 Institute of Earth Sciences	SDG1、SDG4、SDG11
2022	PH.D Program	D86011SG	1	A	古海洋代用指標特論	Special Topics on Multiple Paleoceanographic Proxies	本課程為提供碩博研究生與五年一貫生研習地球環境、古海洋與古氣候，全球氣候變遷之書報討論與口頭報告課程，若有外籍生選修則使用全程英語教學。	It is the goal of the course to provide graduate senior undergraduate students with an overview of current knowledge in the areas of earth environment, paleoceanography and paleoclimatology, and global climate change through oral reports and seminar discussions. In the event that any non-Mardrian speakers join the course, the course will be taught in English.	3	Elective Course	地球科學研究所博士班 Institute of Earth Sciences	SDG7、SDG11、SDG13、SDG14
2022	PH.D Program	D8601R7A	1	A	儀器分析特論	Special Topic of Instrumental Analysis	教導學生對於地球化學經常使用之儀器原理有初步認識，未來可應用在地化實驗分析，有利同學未就業技能。課堂含1學分實習，實習課將利用其他時間安排同學學習儀器操作，並至校外參觀，因此有上台報告和書面報告繳交。	Students are taught to have a preliminary understanding of the principles of instruments frequently used in geochemistry, which can be applied to geochemical experimental analysis in the future, and will be beneficial to the students' future career skills. The class includes a 1-credit internship, which will be arranged for students to learn the operation of equipment and visit outside the campus during other periods of time, so there will be both on-stage reports and written reports to be submitted.	3	Elective Course	地球科學研究所博士班 Institute of Earth Sciences	SDG1、SDG4、SDG9
2022	Master Program	M86013NU	1	A	海洋科學產業實習	Industry Practice of Ocean Sciences	1.本所為培育基礎應用之地球科學與海洋科學相關人才，鼓勵大學部或碩士班學生積極參與產學交流與業界實習，提早接受業界實務訓練及學習相關研究方法，體驗業界實務研究工作情形。 2.本實習課程將以海科館為實習場域。 3.本實習課程視同正課，實習期間學生須遵守學習單位之各項規定並服從其主管之教導。	1.This industry practice training program is designed for undergraduate and graduate students. 2.The training field of the industry practice is at the NMMST.	2	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4、SDG11、SDG14
2022	Master Program	M8601D50	1	A	海底地震儀資料處理	OBS Data Processing	本課程講授海底地震儀資料處理之原理，並應用OBSTOOL, RAYINV等專業軟體處理海底地震儀資料。資料處理著重於分析近幾年在臺灣海域收集的深部震測資料。	This course provides students about the theoy of ocean-bottom seismometer (OBS) data processing and application of OBSTOOL, RAYINV packages. Data processing will be emphasized at analyzing deep seismic data collected offshore Taiwan recently.	3	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M86012VF	1	A	石油探勘產業實習	Academic-Industrial Cooperation in Petroleum Prospecting	為提早培育與儲備石油探勘之專業人才，鼓勵學生參與校外實習，儘早接受實務訓練，瞭解石油產業之油氣評估方法，並體驗相關實務的工作情形。藉由實際的操作分析，有助於學生對於石油探勘以及常用之探勘分析軟體的操作有基本的認識，進而引發學生對於石油產業的興趣，有助於未來的職涯發展。	In order to cultivate and reserve petroleum exploration professionals, students are encouraged to participate in off-campus internships and receive practical training as early as possible to understand the methods of oil and gas assessment in the petroleum industry and to experience the related practical work situations. Through practical analysis, students will gain a basic understanding of petroleum exploration and the operation of commonly used exploration and analysis software, which will in turn stimulate their interest in the petroleum industry and help them in their future career development.	2	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4、SDG8
2022	Master Program	M86014MR	1	A	古生物與碳酸鹽岩石學(含實習)	Paleontology and Carbonate Petrology	本課程為古生物學和碳酸鹽岩石學提供廣泛觀點。學生將學習影響碳酸鹽礦物和沈積物形成的基本化學限制和條件，運用這些知識得以解釋古環境、古老乃至現今之碳酸鹽成岩作用和碳酸鹽岩。	This course provides broad views on Paleontology and Carbonate Petrology to undergraduate and postgraduate students. Students will learn how to use the basic chemical limitations and conditions which affect formation of carbonate minerals and sediments. This knowledge enables interpretation of paleoenvironment and diagenesis of recent and older carbonates and carbonate rocks.	3	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4、SDG13、SDG14、SDG15、SDG17
2022	Master Program	M860124Y	1	A	石油地質學(含實習)	Petroleum Geology	(一)重要能源的認識，並學習珍惜有限能源。 (二)了解目前常用之油氣探勘技術和地球化學分析方法。 (三)期許修過此門課的同學，皆具備基礎石油地質的概念。	(1) To recognise the importance of energy and to learn to value limited energy resources. (2) Understanding of current oil and gas exploration techniques and geochemical analysis methods. (3) It is expected that students who have taken this course will have a basic understanding of petroleum geology.	3	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4、SDG12、SDG14、SDG15
2022	Master Program	M8600754	1	A	岩石學	Petrology	於岩石學課堂教學上，主要讓學生瞭解固態地球之形成和主要組成，增進其對岩石知識的認知；在戶外教學上，在加強學生對於生活環境和岩石之互動，並對於台灣野外岩石分布與生活建材應用有基礎的知識，以增進未來師資們在台灣地質知識的結合。	In petrology classroom teaching, the main purpose is to let students understand the formation and main components of the solid earth, and to enhance their knowledge of rocks; in outdoor teaching, we enhance students' interaction with the living environment and rocks, and have basic knowledge of the distribution of rocks in the field and the application of building materials in Taiwan, so as to enhance the combination of geological knowledge of the future teachers and teachers in Taiwan.	3	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG7、SDG11、SDG12
2022	Master Program	M860124W	1	A	地球物理學(含實習)	Geophysics	1. 探討地層和地殼構造及其中蘊藏的資源探勘 2. 應用地球科學軟體(RAYINV, Echos, SSMT2000)分析震測與電磁波資料 3. 學習震波的折射與反射、其它地球物理探勘方法的基本原理	1. To investigate the strata and crustal structure and their reservoir exploration 2. To analyze seismic and electromagnetic data by geoscientific softwares (RAYINV, Echos, SSMT2000) 3. To learn the basic theory of refraction, reflection and other geophysic exploration	3	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4
2022	Master Program	M86011SI	1	A	臺灣海域地體構造	Tectonics off Taiwan	本課程介紹臺灣附近海域的板塊運動與沉積作用，以及其造成的地體構造。海域地體構造與地震活動、海底資源(例如石油、天然氣、水合物)的關係也將進一步探討。	Plate motion, tectonics and sedimentation off Taiwan are introduced in this course. The interaction among tectonics, seismicity and submarine resources (e.g., petroleum, gas and hydrate) are also investigated.	3	Elective Course	地球科學研究所碩士班 Institute of Earth Sciences	SDG4
2022	Undergraduate	B5102P17	2	A	電子學	Electronics	本課程主要目的在於使學生瞭解各種不同電子元件之構造、特性與應用，舉例並介紹常見電子電路之解析。	The course offers student a basic knowledge of electronic devices, including sminconductors, diodes, BJT transistor, FET transistor, operation amplifier, functional generators	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG1、SDG4
2022	Undergraduate	B51032BP	3	A	造船廠生產管理自動化	Automation Production Management in Shipyards	船舶並不是大量生產而販賣的產品，即使是同型船，依然會發生相當多的客製化需求，此外，造船廠的施工環境及機械也與其他大型工廠有所不同，生產管理的重點與實施方式亦有所不同。 本課程目的在讓修課學生透過課程講解、造船廠實際參訪以及分組討論方式，並藉由與現場工程師的實際接觸，了解現今造船廠的船舶生產與製造環境與需要及限制之因素，如何才能提昇造船廠生產管理自動化的效能。	Ships are not mass-produced products to be sold, even for the same type of ship, there are still a lot of customised requirements. In addition, the construction environment and machinery in shipyards are different from those in other large-scale factories, and the focus and implementation of production management are also different. The aim of this course is to enable the students to understand, through lectures, actual visits to shipyards and group discussions, and through actual contact with on-site engineers, how to improve the effectiveness of production management automation in shipyards in terms of the needs and constraints of today's ship production and manufacturing environments.	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG4、SDG9、SDG14
2022	Undergraduate	B510201P	2	A	船舶監造實務	Practical Ship Survey	實務性之船舶監造與檢驗課程，使同學未來在規劃建造或船舶保養維修時應具備之船舶建造及檢驗知識	Practical ship building supervision and inspection courses to enable students to have knowledge of ship building and inspection when planning and building or ship maintenance and repair in the future	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG7、SDG9、SDG12、SDG13、SDG14、SDG17
2022	Undergraduate	B5103119	3	A	中等流體力學(一)	Intermediate Fluid Mechanics (I)	這是一門理論流體力學的課程，我們接續大二下的基礎流體力學課，進入到更複雜，也更具實用性的進階流力專題。整門課程分為兩個學期，第一學期以黏性流(viscous flow)為主體，第二學期以勢流(potential flow)為主體。第一學期會引介層流/紊流、邊界層、阻力等重要的流力觀念。	This is a theoretical fluid mechanics course that takes us from the basic fluid mechanics class we took in the second year of college to the more complex and practical topics of advanced fluid mechanics. The course is divided into two semesters, the first focusing on viscous flow and the second on potential flow. The first semester will introduce important concepts of flow such as laminar/turbulent flow, boundary layer, and drag.	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG6、SDG7、SDG9、SDG11、SDG13

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B5103S51	3	A	熱傳學	Heat Transfer	此課程主旨為介紹三種熱傳模式-傳導(Heat Conduction)、對流(Heat Convection)、輻射(Thermal Radiation)之基本原理。學生修習完本課程後應可達到以下能力： 1.能概略說明熱傳三種模式以及相關的物理機制，並能描述此三種模式的控制方程式。 2.能分析穩態或暫態的簡易熱傳導問題。 3.能分析簡易熱對流問題。 4.能分析簡易熱輻射問題。 5.能描述熱傳相關的無因次參數之物理意義。	This course introduces the basic principles of the three modes of heat transfer - Heat Conduction, Heat Convection and Thermal Radiation. Upon completion of this programme, students are expected to be able to. 1. be able to describe the three modes of heat transfer and the related physical mechanisms, and be able to describe the control equations of these modes. 2. Be able to analyse simple heat conduction problems in steady state or transient state. 3. Be able to analyse simple heat convection problems. 4. Be able to analyse simple thermal radiation problems. 5. Be able to describe the physical significance of factorless parameters related to heat transfer.	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG6、SDG7、SDG9、SDG11、SDG13
2022	Undergraduate	B5101K3J	1	A	船艦概論	Introduction to Naval Architecture	本課程為修讀造船工程專業系列課程之入門，因此著重於培養學生 瞭解各種船艦之功能與特性；(告知) 熟悉船艦基本專業知識；(解釋) 掌握船艦設計與建造之現況、流程與未來發展；(示範) 激勵學生對日後修讀船艦相關課程之興趣與自學能力。(啟發)	This course is an introduction to a series of courses for Shipbuilding Engineering. It is the basic course for students. understand the functions and characteristics of various ships; (inform) be familiar with the basic knowledge of ships; (Interpretation) master the current situation, process and future development of ship design and construction; (demonstration) encourage students" interest and self-learning ability in the ship related courses in the future. (inspiration)	3	Required Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG7、SDG9、SDG12、SDG13、SDG14、SDG17
2022	Undergraduate	B5103L7O	3	A	進階Java程式設計	Advanced Java Programming	現今的程式語言都屬物件導向程式語言，而且網際網路上都可尋得許多程式庫套件，免費提供開發者整合，以促進自動化或智慧化之相關軟體研發，免費程式庫越多、程式語言越熱門。但若不了解物件導向程式設計的概念，就不瞭解應如何運用這些免費程式庫，而Java程式語言一值是物件導向程式設計的領頭羊。因此，本課程以Java程式語言為工具，藉由開發圖形使用者介面為例，教授同學瞭解物件導向程式設計(object-oriented programming, OOP)的概念，且懂得如何應用程式庫套件；課程最後必須提出期末專題並完成之。	Nowadays, there are many free packages available to programmers for application development. Thus, further progress may easily be made concerning automation and artificial intelligence along various phases in the world. More free packages are there, hotter is the programming language. Therefore, the class teaches students what the object-oriented programming is and how to use free packages to develop your own applications. In the end of the class, a project must be proposed and finished as a part of your learning evaluation.	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG1、SDG4、SDG5、SDG8、SDG9、SDG10、SDG12
2022	Undergraduate	B5102E8F	2	A	基礎Java程式設計	Fundamental Java Programming	本課程設計除了讓學生學會Java程式語法，最重要是教導學生如何建立程式設計能力。	The class teaches students basic programming capability using Java programming language.	3	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG1、SDG4、SDG5、SDG8、SDG9、SDG10、SDG17
2022	Undergraduate	B510208A	2	A	工程數學(一)	Engineering Mathematics (I)	本課程內容將以常微分方程式為主軸，此等方程式所要處理的乃是單一變數的函數（我們通常可把這個變數當作是時間）。微分方程式是自然界各種定律用以表達的數學語言，了解微分方程式與其解的屬性，乃是進入現代科學與工程的基礎門檻。本課程涵蓋的範圍包括一階常微分方程式、高階（含二階）常微分方程式、矩陣。我們希望在學期結束之後，修課的學生能發展出以下的能力： 1. 能用自己的辭彙說明什麼是微分方程式，並定義微分方程式與矩陣運算的基本名詞。 2. 能使用基本的理論解析法求解齊性與非齊性常微分方程式與方程組。 3. 能使用基本的定性分析法，來探討常微分方程式之解的特性。 4. 能使用矩陣的相關定理，探討線性代數方程組的特性；並求取係數矩陣為方陣時的特徵值與特徵向量。 5. 能運用平衡原理與牛頓運動定律，將力學運動問題轉換成數學方程式，並解釋微分方程式各項的意義。 6. 能運用適當的理論解析法或圖解法求解微分方程式，並解釋其解之物理意義。	This course will focus on ordinary differential equations, which deal with functions of a single variable (which we can usually think of as time). Differential equations are the mathematical language in which the laws of nature are expressed, and an understanding of differential equations and the properties of their solutions is a fundamental gateway to modern science and engineering. This course covers first order ordinary differential equations, higher order (including second order) ordinary differential equations, and matrices. At the end of the semester, we hope that students will have developed the following skills: 1. be able to state in their own words what a differential equation is, and to define the basic terms used in differential equations and matrix operations. 2. be able to use basic theoretical analysis to solve chi-square and non-chi-square ordinary differential equations and systems of equations. 3. be able to use basic qualitative analysis to investigate the properties of solutions to ordinary differential equations. 4. be able to use theorems relating to matrices to investigate properties of systems of linear algebraic equations and to obtain eigenvalues and eigenvectors of coefficient matrices when the matrix is a square matrix. 5. be able to apply the principle of equilibrium and Newton's laws of motion to convert force and motion problems into mathematical equations and explain the significance of the various terms of differential equations. 6. be able to solve differential equations using appropriate theoretical analytical or graphical methods and explain the physical meaning of the solutions.	3	Required Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG4
2022	Undergraduate	B5102N5U	2	A	資料庫系統導論	Introduction of Database System	資料庫之應用除了必要，因應大數據分析之重要，在各個應用領域愈顯不可或缺，上至國家、下至個人。本課程主要教導學生如何規劃並可自行創建全新資料庫。	Database system is a necessary tool to the world nowadays. Due to the importance of big data, any fields or businesses cannot live without it up to a country or down to a person.	2	Elective Course	系統工程暨造船學系 Systems Engineering & Naval Architecture	SDG1、SDG4、SDG5、SDG8、SDG9、SDG10、SDG12

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2022	Master Program	M5101M52	1	A	結構動力學	Structural Dynamics	認識多自由度系統之結構動態反應分析，振源包括衝擊負荷、週期性負荷、不規則負荷及隨機負荷。分析方法包括模態疊加法，次空間迭代法及逐步積分法。	To understand the structural dynamic response analysis of multi-degree-of-freedom systems with vibration sources including impact loads, periodic loads, irregular loads and stochastic loads. Analysis methods include modal superposition method, subspace iteration method and stepwise integration method.	3	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG3、SDG9、SDG11
2022	Master Program	M51014DU	1	A	工程實務與決策分析	Engineering Practice and Decision Making Analysis	本課程將就工程全生命週期包含規劃設計、工程招標、工程履約、營運維護等階段進行介紹，並講解決策分析方法。同學可具備完整工程全生命週期之概念，並藉由決策方法決定目前研究、未來工作或生活中之決策問題。	This course will introduce the whole life cycle of a engineering project. The life cycle including planning and design, project bidding, project performance, operation and maintenance, etc. This course will introduce the analytical method of decision-making. Students can have the concept of a complete project life cycle, and use decision-making methods to determine decision-making issues in current research, future work or life.	3	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG4、SDG8、SDG9、SDG11、SDG17
2022	Master Program	M5101J74	1	A	船用流體力學	Ship Hydrodynamics	這個課程延續大學部的"中等流體力學"，進入到較艱深的三個流力主題："非定常勢流效應"(unsteady potential flow effects)、"紊流模式"(turbulence modeling)以及"波浪力學"(water wave mechanics)。這三者不僅是與船舶運動相關的重要流體力學主題，也在更廣義的海洋流體力學課題上為重要的基礎且有許多的應用，例如船舶減阻以及海洋波浪能源，與現今的流力研究趨勢息息相關。其教學目標為： 1.使學生熟悉相關的物理理論與數學模式。 2.使學生了解目前流體力學的研究趨勢以及與課堂內容的關聯性。 3.延續並結合大學部的中等流體力學課，使學生獲得完整的基礎流力訓練。	This programme continues from the Intermediate Fluid Mechanics course at the University into three more difficult flow topics: 'unsteady potential flow effects', 'turbulence modelling' and 'water wave mechanics', "Turbulence modelling and water wave mechanics. These are not only important hydrodynamic topics related to ship motions, but also form the basis for broader ocean hydrodynamic topics with many applications, such as ship drag reduction and ocean wave energy, which are relevant to current hydrodynamic research trends. The objectives of the course are to 1. To familiarise students with the relevant physical theories and mathematical models. 2. To enable students to understand the current trends in hydrodynamic research and their relevance to the classroom content. 3. to provide students with a complete basic training in fluid mechanics in continuation of and in conjunction with the Intermediate Fluid Dynamics course at the University.	3	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG6、SDG7、SDG9、SDG11、SDG13
2022	Master Program	M5101K02	1	A	船舶結構學	Theory of Ship Structure	就船舶結構之特徵，建立相關高等問題之解析模型，並討論其基本原理。	Aim at the characteristics of ship structures, to establish the more advanced analysis models and to discuss the fundamental principles as well.	3	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Master Program	M51014LM	1	A	自主機器人專論	Special Topics on Autonomous Robot	本課程以教授機器人作業系統(robot operating system, ROS)為主，讓學生了解應用ROS可研發各種類型的自主機器人	The students can learn the concept, architecture, related basic knowledge of robot operating system, and the packages. They can also know the diverse applications of ROS.	3	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG4、SDG8、SDG9、SDG17
2022	Master Program	M5101M52	1	A	結構動力學	Structural Dynamics	本課程將延續動力學、振動學成果，繼續探討振動學相關領域專業知識，課程將探討結構動力學基本概念、運動方程式推導與自然頻率、單自由度系統、多自由度系統、連續系統及利用所學理論進行隔振(震)、吸振系統之結構動態反應分析。	This course will base on dynamics and mechanical vibration, and continue to explore professional knowledge in related fields. The course will explore the basic concepts of structure dynamics, including equations of motion, system natural frequencies, single-degree-of-freedom systems, multi-degree-of-freedom systems, continuous systems and the use of learned theories. The dynamic response analysis of vibration isolation and vibration absorption design are also including in this course.	3	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG3、SDG9、SDG11
2022	Master Program	M51014O9	1	A	船舶營運策略及管理(1)	Shipping Operations Strategy and Management(Ⅰ)	本課程主軸為船舶建造修理及其營運管理,針對船舶工程做系統性介紹。藉由船舶專業知識介紹,拓展應用於實務性工程及管理統合,配合分組討論與船廠及船舶參訪等方式,以期熟悉產業現況及未來發展趨勢,為自身生涯做超前部署。	The main subject of this course is ship construction and repair and its operation management, and a systematic introduction to ship engineering is given. Through the introduction of professional knowledge of ships, the application of practical engineering and management integration, with group discussions, shipyard and ship visits, etc., are expected to be familiar with the current industry situation and future development trends, and make advance deployments for their own careers.	2	Elective Course	系統工程暨造船學系碩士班 Systems Engineering & Naval Architecture	SDG3、SDG6、SDG7、SDG12、SDG13、SDG14

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2022	Undergraduate	B5203IEK	3	A	專題研究-建築結構系統	Special Topic Research	本課程的目標係 協助同學了解自己的專長與興趣，修習本課程有助於學生從事研究工作，讓同學熟悉研究方法與實作，訓練學生蒐尋資料、獨立研究及撰寫報告之能力。本系三、四年級同學有志深造或參加研究所推甄者，可利用課餘時間隨系上教師進行專題研究，選課前須洽訪指導老師並確定專題方向，工作時間由指導教師自行安排。期末繳交乙份研究專題報告書至系辦公室，並由指導教師評定報告成績並予簽名，成績及格者即可取得本課程學分。透過本課程學生可獲得以下的能力： 1.河海工程專業知識應用的能力 2.實驗設計操作及數據分析的能力 3.溝通表達的能力	The objectives of this course are to help students understand their own strengths and interests, to help students engage in research, to familiarise students with research methods and practices, and to train students in data collection, independent research and report writing. Students in the third and fourth years of the department who wish to further their studies or participate in the graduate school selection process may use their time outside of class to conduct project research with the departmental faculty. They must visit the instructor and determine the direction of their project before selecting a course, and the instructor will arrange their own working hours. At the end of the semester, a copy of the research project report will be submitted to the department office, and the instructor will evaluate and sign the report, and those who pass the course will receive credit for the course. Students will acquire the following competencies through this course: 1. the ability to apply professional knowledge in river and ocean engineering 2. Ability to operate experimental design and analyse data. 3. Communication and presentation skills.	2	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG8、SDG9
2022	Undergraduate	B52024EF	2	A	遙測學概論	Fundamental of Remote Sensing	本課程旨在讓大學部學生了解遙測相關的基礎原理，以及遙測的相關應用案例介紹	This course aims to provide fundamental theory and concept of remote sensing to undergraduate students and some applications of remote sensing in environmental monitoring will be introduced.	2	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG4、SDG10、SDG11、SDG13、SDG15
2022	Undergraduate	B52034GK	3	A	專題研究-遙測於防減災之應用	Special Topic Research-Remote sensing application in disaster management	一般而言，災害影響範圍大或發生於人員難及之處，基於上述特性，衛星遙測即為相當適合的監測工具，從太空中了解地球表面之變化情形，而衛星的重複觀測能力提供災害演變的監測能力，最重要的事情為選定所要探討之環境議題，例如：ＮＡＳＡ的暑期工讀生便以衛星影像監測海岸生態的變化。本課程主要目標即在於教導學生使用雲端遙測工具，分析衛星影像，監測大範圍之災害事件與生態環境之影響。	In general, the spatial coverage of various kind of disasters is relatively large and some disaster such as landslide occur in remote area where people very difficult to reach. Remote sensing is a state-of-the-art tool to monitor the land surface changes from space and it provides repeat observations to monitor the change of the disaster. With a proper environmental issue, this course is aiming to lead student to realise an environmental issue or a disaster issue and monitor it with cloud-based remote sensing tools.	2	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG6、SDG11、SDG13、SDG15
2022	Undergraduate	B52033XD	3	A	專題研究-海洋汙染擴散	Special Topic Research-Introduction to coastal pollution	提供大學部學生先行瞭解海洋污染物的基礎特性、科普知識與相關學理	To provide university students with a first-hand understanding of the basic properties, scientific knowledge and related theories of marine pollutants.	2	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG7、SDG14、SDG15
2022	Undergraduate	B52031AW	3	A	海岸開發與保育	Coastal Development and Conservation	介紹臺灣沿海發展狀況並舉例實務案例進行說明，瞭解海岸開發與保育兩者平衡的含意	Introduction to coastal development, management policy and conservation. The goal is to understand the balance between coastal development and conservation.	3	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG13、SDG14
2022	Undergraduate	B5203IEK	3	A	專題研究-建築結構系統	Special Topic Research	本課程的目標係 協助同學了解自己的專長與興趣，修習本課程有助於學生從事研究工作，讓同學熟悉研究方法與實作，訓練學生蒐尋資料、獨立研究及撰寫報告之能力。本系三、四年級同學有志深造或參加研究所推甄者，可利用課餘時間隨系上教師進行專題研究，選課前須洽訪指導老師並確定專題方向，工作時間由指導教師自行安排。期末繳交乙份研究專題報告書至系辦公室，並由指導教師評定報告成績並予簽名，成績及格者即可取得本課程學分。透過本課程學生可獲得以下的能力： 1.河海工程專業知識應用的能力 2.實驗設計操作及數據分析的能力 3.溝通表達的能力	The objectives of this course are to help students understand their own strengths and interests, to help students engage in research, to familiarise students with research methods and practices, and to train students in data collection, independent research and report writing. Students in the third and fourth years of the department who wish to further their studies or participate in the graduate school selection process may use their time outside of class to conduct project research with the departmental faculty. They must visit the instructor and determine the direction of their project before selecting a course, and the instructor will arrange their own working hours. At the end of the semester, a copy of the research project report will be submitted to the department office, and the instructor will evaluate and sign the report, and those who pass the course will receive credit for the course. Students will be able to acquire the following abilities: 1. ability to apply professional knowledge in river and sea engineering 2. ability to operate experimental design and data analysis 3. ability to communicate and express their views.	2	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG8、SDG9

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2022	Undergraduate	B5203ZBD	3	A	環境永續規劃與設計	Sustainable Environment Planmong and Design	課程介紹 永續發展演進 案例介紹 永續規劃案例 Dam removal Dam removal Dam removal LID 期中考 LID LID 生態工法 生態工法 生態工法 生態工法 生態工法 期末分組報告 期末分組報告	Courses Continuing Development Case Studies Sustainability Cases Dam removal Dam removal Dam removal LID Midterm Exam LID LID Eco-engineering Eco-engineering Eco-engineering Eco-Method Ecological Methods Final Group Report Final Group Report	3	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG11、SDG13
2022	Undergraduate	B5203M55	3	B	結構學	Structure	讓學生瞭解各種不同結構的組成及其特性，以及各種結構相關問題的相應理論及分析方法，使學生具備未來從事結構分析的基本能力。	Students will be able to understand the composition and properties of different structures, as well as the corresponding theories and analytical methods of various structure-related problems, so as to equip students with the basic ability to engage in structural analysis in the future.	3	Required Course	河海工程學系 Department of Harbor and River Engineering	SDG8、SDG9
2022	Undergraduate	B5204M46	4	A	結構矩陣分析	Matrix Structural Analysis	以結構學理論為基礎講解能量原理、虛功法、互補虛功法及卡氏定理在結構學之應用，推導桁架、樑及剛架之柔度與勁度矩陣，使學習本課程學生了解使用電腦進行結構設計與分析之必要知識。	Based on structural theories, this course explains the application of the energy principle, the virtual work method, the complementary virtual work method, and Carpenter's theorem in structural science, and deduces the flexibility and stiffness matrices of trusses, beams, and stiffeners, so as to enable students to understand the necessary knowledge of using computers to carry out structural design and analysis.	3	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG8、SDG9
2022	Undergraduate	B5204061	4	A	工址調查	Site Investigation	使同學學習相關工址調查之基本原理、方法，及其在相關工程之應用(如深開挖工程、坡地工程、海埔地開發、災害調查等)，並以工程案例探討說明，以期讓同學了解工址調查之重要性，進而整合已往相關專業課程以落實完善之工址調查，使土地利用更能考量其潛能與適宜性，以預防或減少工程災害之產生。	Students will learn the basic principles and methods of site investigation and its application in related projects (e.g. deep excavation works, slope works, seaport development, disaster investigation, etc.), and use engineering case studies to illustrate, in order to enable students to understand the importance of site investigation, and then integrate the relevant professional courses to implement a comprehensive site investigation, so that land use can better take into account the potential and appropriateness, in order to prevent or minimise the emergence of engineering disasters.	3	Elective Course	河海工程學系 Department of Harbor and River Engineering	SDG4、SDG13
2022	PH.D Program	D52012DW	1	A	地下水特論	Advanced Topics in Groundwater Modeling	本課程教學目標在教導學生如何使用進階之方法分析大地工程地下水相關課題。 課程內容從地下水介紹，說明飽和層地下水理論與未飽和層地下水理論，之後說明控制方程式並探討各種不同分析方法，本課程之分析方法將包含有限差分法與無網格法等數值分析方法，課程目標在使學生具有使用使用進階之方法分析大地工程地下水之能力，並提昇學生相關研究與未來就業之競爭力。	The objective of this course is to teach students how to use advanced methods to analyse groundwater related topics in geotechnical engineering. The course content begins with an introduction to groundwater, explains the theory of saturated and unsaturated groundwater, and then explains the control equations and discusses different analysis methods. The analysis methods in this course will include numerical analysis methods such as finite difference method and non-gridded method, etc. . The goal of the course is to provide students with the ability to use advanced methods to analyse groundwater in geotechnical engineering and to enhance their competitiveness in research and future employment.	3	Elective Course	河海工程學系博士班 Department of Harbor and River Engineering	SDG9
2022	Contiuning Education Master Degree Program	T4501I8H	1	A	混凝土構件行為及檢測評估專論	Special Topic on Reinforced Concrete Behavior and the Methods of Inspection and Evaluation	探討鋼筋混凝土構件力學行為、破壞模式，並介紹鋼筋混凝土桿件的材料檢測、結構安全評估方法及其補強策略。最後藉由實際案例的研析，瞭解鋼筋混凝土桿件在各種環境載重(垂直振動載重、地震力和風力等)引致的劣化、損傷、破壞行為及其對應適用的維修補強方法。	To explore the mechanical behaviour and damage modes of reinforced concrete elements, and to introduce the material testing, structural safety assessment methods and reinforcement strategies for reinforced concrete elements. Finally, through the analysis of actual cases, the deterioration, damage and destruction behaviour of reinforced concrete members under various environmental loads (vertical vibration loads, seismic forces, wind forces, etc.) and their corresponding repair and strengthening methods are introduced.	3	Elective Course	河海工程學系碩士在職專班 Department of Harbor and River Engineering	SDG8、SDG9

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2022	Contiuning Education Master Degree Program	T450115B	1	A	山坡地永續發展與利用	Slope Land Sustainable Development and Utilization	本課程針對坡地工程開發審議相關法令規章，坡地環境地質、坡地工址調查、坡地土地利用潛力、坡地規劃與水保工程技術等必要之各學門基本理念、知識進行整合介紹，另探討邊坡穩定安全分析、安全監測、既有坡地社區安全評估、坡地災害與防治技術之應用，及利用案例評估說明，使修習者在結業後能具備參與永續坡地開發利用與保育之基本素養與專業知能，尤其是八八水災對台灣坡地土石流災害之衝擊，及對國土規劃與永續利用之體認。	This course introduces the basic concepts and knowledge of various disciplines that are necessary for the examination of laws and regulations related to the development of slope engineering, the geology of slopes, the investigation of slopes, the potential for land use of slopes, the planning of slopes, and the engineering techniques of water conservation. In addition, it also explores the application of slope stability and safety analyses, safety monitoring, community safety assessment of existing slopes, and techniques for the prevention of slopes, as well as the use of case studies, so that learners will be able to have the basic qualities and expertise to participate in the development, use, and conservation of sustainable slopes, particularly in the light of the impacts of the 1988 disaster on the slope debris flow hazards of Taiwan, as well as the understanding of the national land use planning and sustainable utilisation of slopes.	3	Elective Course	河海工程學系碩士在職專班 Department of Harbor and River Engineering	SDG4、SDG8、SDG13
2022	Master Program	M52014B9	1	A	高等海岸水力學	Advanced Coastal Hydraulics	本課程為研究所碩士班之課程，針對波浪理論中微小振幅波作進一步討論。內容進一步探討表面重力波的Boussinesq型方程式之綜述，海灘和沿海結構的波浪上升和越波特性，不規則海中的二階波浪載荷及其響應，自由表面跟踪方法及其在波浪流體動力學中的應用以及非線性波的數值方法。內容包括波浪、流、地形變化之相關力學特性、海岸線變化模式、港池振盪與潮汐對海岸結構物之力學表現，本課程規劃以18週及每周3小時之時間完成。	This course further discusses the small amplitude waves theory, the overview of Boussinesq equations, surface gravity waves, and the characteristics of wave propagation and deformation over the coastal structures and beaches, second-order wave loads and their responses in random sea, free surface tracking methods and their applications in wave hydrodynamics application, and also the numerical methods of nonlinear waves. The content includes related mechanical properties of waves, currents, and terrain changes, coastline change patterns, port basin oscillations and the mechanical performance of tides on coastal structures. This course is planned to be completed in 18 weeks and 3 hours a week.	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG9、SDG11
2022	Master Program	M5201U42	1	A	數值分析於大地工程之應用	Numerical Methods in Geotechnical Engineering	本課程教學目標在教導學生如何使用電腦及相關分析方法以解決大地工程之相關問題。課程內容從基本土壤指數性質與分類之程式開始，至以有限差分數值方法求解地下水滲流問題，之後探討應力分析與轉換，而後講解邊坡穩定分析、沉陷分析、與壓密分析等，最後再教導學生較為複雜之岩石力學分析程式，使學生具有使用電腦進行分析設計之能力，並提昇學生相關研究與未來就業之競爭力。	The objective of this course is to teach students how to use computers and related analytical methods to solve geotechnical engineering problems. The course content begins with basic soil index properties and classification procedures, and then moves on to solving groundwater seepage problems using the finite difference numerical method, followed by a discussion of stress analysis and conversion, and then slope stability analysis, subsidence analysis, and compaction analysis, and finally the more complex rock mechanics analysis procedures, so as to enable the students to use the computer to carry out the analysis and design, and to enhance the competitiveness of students for related research and future employment. This will also enhance students' competitiveness in related research and future employment.	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG9
2022	Master Program	M5201N5J	1	A	資料探勘	Data mining	本課程旨在介紹資料蒐集、分析、統計等方法，教導學生如何在大量數據中，整理資料並找出需要的資訊。	This course aims to introducing the techniques of data mining and the students will learn data collecting, cleaning, processing, and statistically analyzing and extract useful information.	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG10、SDG11、SDG13
2022	Master Program	M5201N9W	1	A	電腦在海洋工程之應用	Programming on Ocean Engineering	了解如何應用電腦工具/計算的功能於海岸工程之應用	Application of PC-computation tools in coastal engineering	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG4、SDG13、SDG14
2022	Master Program	M5201853	1	A	近岸動力學	Nearshore Dynamics	課程宗旨為瞭解海岸工程中近岸海域之水動力及相關學理。	Introduction to nearshore hydrodynamics and associated engineering applications	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG13、SDG14、SDG15
2022	Master Program	M5201306	1	A	水資源系統分析	Water Resource System Analysis	面對水資源問題時(水太多,水太少,水太髒), 能以系統分析有效方式, 對水之開發、保育、控制、利用及管理等活動, 覓致完整之計劃.	When faced with water resource problems (too much water, too little water, too dirty water), we can find a complete plan for the development, conservation, control, use and management of water in a systematic and effective way.	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG15
2022	Master Program	M5201F88	1	A	高等實驗土壤力學	Advance of Experimental Soil Mechanics	首先使同學能深入了解全球氣候變遷大地工程師應面對的挑戰，進而介紹土壤力學相關規範、鑽探與取樣，及各項土壤力學試驗之基本原理與特性、安全監測，熟悉其在大地工程之應用，以作為進一步探討研究土壤、岩石力學行為之基礎。	This course provides students with an in-depth understanding of the challenges facing geotechnical engineers as a result of global climate change. It also introduces soil mechanics, drilling and sampling, the basic principles and characteristics of soil mechanics tests, safety monitoring, and familiarises them with their application in geotechnical engineering, which will serve as a basis for further research into soil and rock mechanics.	3	Elective Course	河海工程學系碩士班 Department of Harbor and River Engineering	SDG4、SDG8、SDG13

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2022	Contiuning Education Master Degree Program	T4X01PPP	1	A	學術研究倫理	Academic Research Ethics	培養初踏入研究領域之高等教育學生了解學術倫理重要性，希冀透過課程提升學生之學術倫理思維、普世價值、法律規範等倫理知能，增進對於學術倫理與研究倫理意涵與實務面之理解，並落實誠信且負責任的研究行為。	Cultivate higher education students who are new to the research field to understand the importance of academic ethics. Through the programme, we hope to enhance students' ethical knowledge of academic ethical thinking, universal values, legal norms, etc., and to increase their understanding of the meaning and practical aspects of academic ethics and research ethics, as well as the implementation of honest and responsible research behaviours.	0	Required Course	食品安全管理碩士在職學位學程 Institute of Food Safety and Risk Management	SDG4
2022	Master Program	M02023VC	2	A	食品產業管理與投資	Food Industries Management Investment	洞悉產業動脈、經營與市場動態	Promote the insight of Food Industries, business operation and dynamic of global markets	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG1、SDG9、SDG12、SDG14、SDG17
2022	Master Program	M02013AP	1	A	生物統計學&R軟體應用	Biostatistics & Application with R	本課程主要目的介紹生物統計之基本概念及常用的統計檢定方法，以及搭配統計軟體R語言之使用與應用。預期同學能進行基本的資料分析與統計檢定。	This course introduces the basic concepts of biostatistics and common statistical validation methods, as well as the use and application of the statistical software R. Students are expected to be able to perform basic data analysis and statistical validation. Students are expected to be able to perform basic data analysis and statistical validation.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG4
2022	Master Program	M02014AZ	1	A	永續食品生產與安全	Sustainability and Safety of Food Production	熟悉永續食品生產相關知識	Recognize knowledge on Sustainable Food Production	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG1、SDG2、SDG3、SDG6、SDG8、SDG9、SDG11、SDG12
2022	Master Program	M02013NS	1	A	應用微生物學特論	Advances in Applied Microbiology	本課程針對微生物於對環境及抗菌劑壓力反應應用研究有興趣之碩士班學生而設計。	This course is designed for students who are interested in the latest research of microbial environmental stress response and application of natural antibacterial agents.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG3、SDG4、SDG6、SDG7、SDG12、SDG14
2022	Master Program	M02013AP	1	A	生物統計學&R軟體應用	Biostatistics & Application with R	本課程主要目的介紹生物統計之基本概念及常用的統計檢定方法，以及搭配統計軟體R語言之使用與應用。預期同學能進行基本的資料分析與統計檢定。	This course introduces the basic concepts of biostatistics and common statistical validation methods, as well as the use and application of the statistical software R. Students are expected to be able to perform basic data analysis and statistical validation. Students are expected to be able to perform basic data analysis and statistical validation.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG4
2022	Master Program	M02014N2	1	A	生物聚合於微生物應用導論	Introduction of application of biopolymer in applied microbiology	本課程針對海洋中相關生物聚合物於微生物應用研究有興趣之碩士班學生而設計。	This course is designed for students who are interested in the latest research of biopolymers in applied microbiology and application of natural antibacterial agents.	2	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG3、SDG4、SDG6、SDG7、SDG9、SDG11、SDG12、SDG13、SDG14
2022	Master Program	M02013AS	1	A	食品安全供應鏈特論	Food Safety Supply Chain	學生於本課程將學習與探討 (1)食品安全與供應鏈概論：包含食品供應鏈管理基本概念與應用，及食品從業人員之衛生安全管理。 (2)食材與食品選購與驗收：包含說明介紹現代食品採購的特色、功能、策略、作業管理及食材驗收作業，同時介紹各類食材與食品及其選購要點。 (3)食品供應鏈與物流管理：包含食品保鮮技術與貯藏方法、低溫倉儲、存貨與配送管理，使讀者瞭解從事食品採購與供應鏈管理的工作內容與管理重點。	In this class, students are expected: 1. To gain the knowledge in food safety and supply including the concept and practice of food supply chain, and food hygiene safety management. 2. To increase the ability of food and ingredients choose and safety exam, including the process of food purchase and sanitation examination. 3. To improve the skills of food supply chain and logistics management, including food fresh-keeping and storage technology.	3	Required Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG9
2022	Master Program	M02013MQ	1	A	進階生物統計學	Introduction to Biostatistics	本課程主要目的介紹進階生物統計之概念及常用的統計檢定方法，預期同學能進行複雜的資料分析與統計檢定。	The main objective of this course is to introduce the concepts of advanced biostatistics and commonly used statistical validation methods. Students are expected to be able to perform complex data analysis and statistical validation.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG4
2022	Master Program	M0201A45	1	A	食品病原菌	Foodborne pathogen	本課程著重幫助學生了解食品病原菌基本介紹，以及台灣地區食品中毒微生物相關可能致病機制，其中亦包含如何控制及預防，另將介紹新穎食品病原菌快速檢測技術。此課程為深入微生物、食品微生物於食品安全、食品防禦相關研究的一門學問。	This course primarily covers the general description of foodborne pathogens and their mechanisms of pathogenesis, control and prevention, and detection strategies, with easy-to-comprehend illustrations. This course is an essential resource for food microbiology graduate or undergraduate students, microbiology professionals, and academicians involved in food microbiology, food safety, and food defense-related research.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG3、SDG4、SDG6、SDG7、SDG11、SDG13、SDG14
2022	Master Program	M02013VD	1	A	食品偽摻與檢測	Food Adulteration and Its Detection	熟悉食品偽摻與檢測相關知識	Recognize knowledge on Food Adulteration and Its Detection	2	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG1、SDG2、SDG3、SDG6、SDG12、SDG16

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2022	Master Program	M02014N1	1	A	食品包裝學	Food Packaging	食品包裝的主要作用是保護食品免受外界影響產生損壞，以及容納食品，並為消費者提供成分和營養信息，而次要的功能是提供食品可追溯性、便利性和篡改指示。食品包裝的目標是在合理的成本下，以符合行業要求和消費者需求的方式包裝食品、保持食品安全，並最大限度地減少對環境的影響。本課程的目標是提供有關食品包裝的必要知識。	The principal roles of food packaging are to protect food products from outside influences and damage, to contain the food, and to provide consumers with ingredient and nutritional information. Traceability, convenience, and tamper indication are secondary functions of increasing importance. The goal of food packaging is to contain food in a cost-effective way that satisfies industry requirements and consumer desires, maintains food safety, and minimizes environmental impact. The goal of this course is to provide the necessary knowledge about food packaging.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG3、SDG12
2022	Master Program	M0201I46	1	A	專題討論(一)	Seminar (1)	訓練研究生文獻收集、整理與演講表達之能力，加強跨領域的學習及互動。	To train postgraduate students in document collection, organisation and presentation skills, and to enhance cross-disciplinary learning and interaction.	1	Required Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG4
2022	Master Program	M0202I47	2	A	專題討論(三)	Seminar	訓練研究生文獻收集、整理與演講表達之能力，加強跨領域的學習及互動。	To train postgraduate students in document collection, organisation and presentation skills, and to enhance cross-disciplinary learning and interaction.	1	Required Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG3、SDG4、SDG5、SDG7、SDG10
2022	Master Program	M02013NR	1	A	食品產業經營管理	Seminar on Food Industry Management	1.講授食品產業經營管理中不同部門的責任 2.針對食品創新策略進行討論	1. to teach the responsibilities of different departments in the management of food industry operations 2. Discussion on innovation strategies for food products.	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG3、SDG8、SDG9、SDG17
2022	Master Program	M02013VB	1	A	食品副產物利用與安全	Food by-products utilization and Safety	熟悉食品副產物與安全相關知識	Recognize knowledge on Food by-products utilization and Safety	3	Elective Course	食品安全與風險管理研究所 Institute of Food Safety and Risk Management	SDG9、SDG12、SDG14
2022	Undergraduate	B32012W0	1	B	程式設計與資料處理	Programming and Data Processing	透過程式設計邏輯與語法，建構起資料處理模式，並且製作出所需之應用表單。學生於本課程將學習與探討 1. 程式設計：包含程式設計邏輯與結構，透過問題導向方式設計解決方案。 2. 資料處理：包含資料規劃與資料格式處理，將資料能做有效使用。 3. 程式設計與資料處理：整合程式與資料之運算，建構所需應用程式。 4. 其他輔助技術：包含其他輸入或輸出模式之探討。	To construct data processing models through programming logic and syntax, and to create the required application forms. In this course, students will study and explore 1. programming: including programming logic and structure, and designing solutions through a problem-oriented approach. 2. data processing: including data planning and data processing syntax. 2. data processing: including data planning and data formatting, to make effective use of data. 3. Programming and Data Processing: Integrate programming and data computation to construct the required application programmes. 4. other auxiliary technologies: including the exploration of other input or output modes.	2	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B320183R	1	A	物理學實驗(二)	General Physics Lab.(Ⅱ)	物理學基本上是實驗之科學，本課程藉由實作過程—眼見為真，並輔以教學影片之觀賞，以祈幫助同學瞭解物理基本觀念及現象，以及驗證相關之物理定律或原理，並建立基本之實驗技能。	Physics is basically an experimental science. This course is designed to help students to understand the basic concepts and phenomena of physics, to verify the laws and principles of physics, and to build up basic experimental skills through the process of practical work - seeing is believing, supplemented by the viewing of teaching videos.	1	Elective Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201L6N	1	A	普通化學(二)	General Chemistry(Ⅱ)	普通化學為生命科學的基礎課程，本課程擬在大學一年級時將普通化學的基本原理及其實驗方法做廣泛多角度的介紹與討論，以奠定大學部學生化學的基礎，並啟發其對生命科學的興趣。	General Chemistry is a foundation course in the life sciences. This programme aims to introduce and discuss the basic principles of general chemistry and its experimental methods in a broad and multi-faceted manner in the first year of the university, so as to lay the foundation of biochemistry in the university department and to stimulate their interest in the life sciences.	2	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201L6P	1	B	普通化學實驗(二)	General Chemistry Lab.(Ⅱ)	配合基礎化學課程理論，強調實驗操作技巧的養成訓練，及培養撰寫實驗報告的能力	In line with the theories of the basic chemistry curriculum, emphasis is placed on the development of laboratory skills and the ability to write laboratory reports.	1	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201NNX	1	C	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	食科系館打掃	Sweeping of Food Service Centres	0	Service Learning Program	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B320145S	1	B	生物學實驗(二)	Biology Lab.(Ⅱ)	期望藉由實驗課程的操作，對生命科學有一基礎認知，繼而引發學生對生命科學的興趣，繼續進修相關的各項專科高階課程，或在對生命奧秘的探討有研究的熱忱。	Through operating the experiments by themselves, the students will gain the knowledge of life science.	1	Elective Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201A3G	1	A	食品生物技術概論	Introduction to Food Biotechnology Engineering	生命科學日新月異，本課程主要讓學生對生物技術的目前發展與未來前景，有初步的認識與了解，誘發學生對生技產業的興趣與認知，並規劃自己未來修科方向。	As life sciences are ever-changing, this course aims to provide students with an initial understanding of the current development and future prospects of biotechnology, to stimulate students' interest in and awareness of the biotechnology industry, and to plan their future course of study.	2	Required Course	食品科學系 Department of Food Science	SDG2、SDG3、SDG4

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2022	Undergraduate	B3201NNY	1	A	服務學習_愛校服務(II)	Service-Learning Program-Campus Service (Ⅱ)	食科系館打掃	Sweeping of Food Service Centres	0	Service Learning Program	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B32012W0	1	A	程式設計與資料處理	Programming and Data Processing	透過程式設計邏輯與語法，建構起資料處理模式，並且製作出所需之應用表單。學生於本課程將學習與探討 1. 程式設計：包含程式設計邏輯與結構，透過問題導向方式設計解決方案。 2. 資料處理：包含資料規劃與資料格式處理，將資料能做有效使用。 3. 程式設計與資料處理：整合程式與資料之運算，建構所需應用程式。 4. 其他輔助技術：包含其他輸入或輸出模式之探討。	To construct data processing models through programming logic and syntax, and to create the required application forms. In this course, students will study and explore 1. programming: including programming logic and structure, and designing solutions through a problem-oriented approach. 2. data processing: including data planning and data processing syntax. 2. data processing: including data planning and data formatting, to make effective use of data. 3. Programming and Data Processing: Integrate programming and data computation to construct the required application programmes. 4. other auxiliary technologies: including the exploration of other input or output modes.	2	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B320183Q	1	A	物理學(二)	General Physics (Ⅱ)	使學生建立物理的基本觀念，並瞭解其發展外，更能進一步對於相關的知識能靈活運用。	Students will be able to establish the basic concepts of Physics and understand their development, and will be able to make flexible use of the related knowledge.	2	Elective Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201NNY	1	B	服務學習_愛校服務(II)	Service-Learning Program-Campus Service (Ⅱ)	食科系館打掃	Sweeping of Food Service Centres	0	Service Learning Program	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201L6P	1	A	普通化學實驗(二)	General Chemistry Lab. (Ⅱ)	學會化學實驗之基礎操作,作為未來其他專業課程實驗如生物化學,分子生物學等的基礎	To learn the basics of chemical experiments, which will serve as a foundation for other professional courses such as biochemistry and molecular biology.	1	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B320145S	1	A	生物學實驗(二)	Biology Lab. (Ⅱ)	期望藉由實驗課程的操作，對生命科學有一基礎認知，繼而引發學生對生命科學的興趣，繼續進修相關的各項專科高階課程，或在對生命奧秘的探討有研究的熱忱。	Through operating the experiments by themselves, the students will gain the knowledge of life science.	1	Elective Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201I21	1	A	基礎食品工程學	Fundamental Food Engineering	介紹重要之工程概念在食品科學上之應用。	To introduce the applications of important engineering principles in food science.	3	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201M9N	1	A	微積分(二)	Calculus (Ⅱ)	學習與生命科學相關之數學: (微分與積分)單變數積分之方法與技巧、積分之應用,和多變數之微分和積分, 以及矩陣運算(含解線性方程組)。期使學生能夠以微積分為工具來分析問題與解決問題。	To learn the techniques of integration and its applications, and the differentiation and integration for several variables.	3	Elective Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B320144K	1	A	生物學實驗	Biology Lab.	期望藉由實驗課程的操作，對生命科學有一基礎認知，繼而引發學生對生命科學的興趣，繼續進修相關的各項專科高階課程，或在對生命奧秘的探討有研究的熱忱。	Through operating the experiments by themselves, the students will gain the knowledge of life science.	1	Required Course	食品科學系 Department of Food Science	SDG14、SDG15
2022	Undergraduate	B3201L6L	1	A	普通化學(一)	General Chemistry(1)	本課程強調化學領域的基礎理論和定義，配合教與學合一的理念，共同體認以化學知識闡述生命科學的邏輯概念，並建立學生研讀科技英語的能力。詳參：www.chem.ntou.edu.tw	This course emphasises the fundamental theories and definitions in the field of chemistry, together with the concept of teaching-learning integration, to recognise the logical concepts of life sciences in the context of chemical knowledge, and to build students' competence in the study of technical English. For details, please refer to: www.chem.ntou.edu.tw	2	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3201NNX	1	B	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	食科系館打掃	Sweeping of Food Service Centres	0	Service Learning Program	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3202A3A	2	A	食品加工學(一)	Food Products Technology (1)	本課程之目的、在介紹各種類食品加工方法、及原料在加工中其化學、物理變化現象之解明等。	The purpose of this course is to introduce various food processing methods and to explain the phenomena of chemical and physical changes in raw materials during processing.	3	Required Course	食品科學系 Department of Food Science	SDG2
2022	Undergraduate	B3202W95	2	A	乳酸發酵食品	Lactic Acid Fermentation Food	本課程之授課目標在於促進本系大學部學生在乳酸發酵食品的產業歷史、國內外產業現況、與未來發展重點等方面有所瞭解，以提升本系學生對於乳製加工食品的學習興趣，並可做為未來進入乳品加工業服務發展的基礎。	The objectives of this course are to promote the department's undergraduate students' understanding of the history of the lactic acid fermented food industry, the current situation of the domestic and international industries, and the future development focus, to enhance the department's students' interest in the study of processed dairy foods, and to serve as a foundation for future service development in the dairy processing industry.	2	Elective Course	食品科學系 Department of Food Science	SDG2、SDG3、SDG4

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2022	Undergraduate	B320260D	2	A	有機化學實驗(一)	Organic Chemistry Lab(I)	使學生學會有機化學實驗之基礎操作	This laboratory subject is designed to familiarize the students with the application of organic chemistry. The preparation skills of the students are to be developed by performing different types of organic techniques.	1	Required Course	食品科學系 Department of Food Science	SDG1、SDG3、SDG4、SDG6、SDG12
2022	Undergraduate	B320260C	2	A	有機化學(一)	Organic Chemistry(I)	以電子移動主導原理(electron movement)增進學生對有機化學理解，並強調以有機化學基礎之觀點角度，增加對生物化學以及與環境相關之有機化學的認識	The electron-movement oriented approach is employed to encourage the understanding of organic reactions. The basis biochemistry and environmental chemistry will also be covered in organic chemist`s veiw.	3	Required Course	食品科學系 Department of Food Science	SDG1、SDG3、SDG4、SDG6、SDG13
2022	Undergraduate	B320260C	2	B	有機化學(一)	Organic Chemistry(I)	以電子移動主導原理(electron movement)增進學生對有機化學理解，並強調以有機化學基礎之觀點角度，增加對生物化學以及與環境相關之有機化學的認識	To enhance students' understanding of Organic Chemistry based on the guiding principle of electron movement, and to emphasise the perspective of the fundamentals of Organic Chemistry in order to increase the understanding of Biochemistry and Organic Chemistry related to the environment.	3	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3202M82	2	C	微生物學實驗(一)	Microbiology Lab.(I)	本課程旨在提供本系大學部學生具有微生物研究工作所必須具備之基本實驗操作技術	This programme is designed to provide undergraduate students with the basic laboratory skills necessary for microbiological research.	1	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B320144K	1	B	生物學實驗	Biology Lab.	期望藉由實驗課程的操作，對生命科學有一基礎認知，繼而引發學生對生命科學的興趣，繼續進修相關的各項專科高階課程，或在對生命奧秘的探討有研究的熱忱。	Through operating the experiments by themselves, the students will gain the knowledge of life science.	1	Required Course	食品科學系 Department of Food Science	SDG4
2022	Undergraduate	B3A0260G	2	A	有機化學(二)	Organic Chemistry (Ⅱ)	以電子移動主導原理(electron movement)增進學生對有機化學理解，並強調以有機化學基礎之觀點角度，增加對生物化學以及與環境相關之有機化學的認識	The electron-movement oriented approach is employed to encourage the understanding of organic reactions. The basis biochemistry and environmental chemistry will also be covered in organic chemist`s veiw.	3	Elective Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A0347N	3	A	生物技術學	Biotechnology	簡介生物技術的發展、原理。	The aim of the class is to introduce upper level undergraduate students to the main theoretical concepts and experimental designs in biotechnology. Specific course aims include: (1) an introduction of the basic concepts and issues in biotechnology, (2) development of techniques and data analysis, (3) develop skills in protein production, purification and characterization, and (4) develop an understanding of the application of these techniques in medicine and the agriculture.	3	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A0260H	2	A	有機化學實驗(二)	Organic Chemistry Lab.(Ⅱ)	配合有機化學課程教學，提供學生學習實驗操作之基本技術。	This course is designed to support the teaching of Organic Chemistry and to provide students with the basic techniques of experimental manipulation.	1	Elective Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A04A19	3	A	食品衛生與安全	Food Sanitation and Safety	本課程目的在於使學生瞭解現有食品衛生與安全之相關知識，包括食品中毒相關知識與防治、黴菌毒素中毒、動植物天然毒素中毒、食品添加物或環境污染物之化學物質、食品包裝容器之衛生安全與管理、重金屬污染等等，並導入相關法規與政策資訊輔之。	This course is designed to provide students with an understanding of existing food hygiene and safety related knowledge, including knowledge and prevention of food poisoning, mycotoxicosis, natural toxins in animals and plants, chemical substances in food additives or environmental pollutants, hygiene and safety and management of food packaging containers, heavy metal contamination, etc., as well as introduction to the relevant regulations and policy information to supplement.	2	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A0347H	3	A	生物技術學實驗	Biotechnology Lab.	本課程設計為落實生物技術學的理論於基礎實驗中，使學生熟悉基礎的生物技術操作。	This course is designed to implement the theories of biotechnology in basic experiments and to familiarise students with basic biotechnological practices.	3	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A0347H	3	B	生物技術學實驗	Biotechnology Lab.	本課程設計為落實生物技術學的理論於基礎實驗中，使學生熟悉基礎的生物技術操作。	This course is designed to implement the theories of biotechnology in basic experiments and to familiarise students with basic biotechnological practices.	3	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A04A53	4	A	食品微生物學實驗	Microbiology of Foods Lab.	培育修畢本課程的學生具有初步獨立進行基礎食品相關微生物學實驗之能力	To equip students who have completed this programme with the ability to carry out basic food-related microbiology experiments independently.	2	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A030EO	3	A	專題演講(二)	Undergraduate Seminar (Ⅱ)	增進同學不同領域之課外知識及驗證所學理論。	To enhance students' extracurricular knowledge in different areas and to validate theories learnt.	1	Elective Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A03I38	3	A	專題討論	Seminar	學習科學期刊資料的收集整理與發表,了解科學報告的撰寫及報告	To learn how to collect, organise and publish scientific journals, and to understand the writing and reporting of scientific reports.	1	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A03U82	3	A	營養學	Nutrition	1. 使學生具備基礎營養知識，明瞭食物成分在維持人體生理功能及預防疾病之角色。 2. 結合食品科學核心領域知識，啟發學生研究創新食品、學習進階營養課程之興趣。 3. 培養學生彙整資料、同儕合作、分析思考及表達溝通...等能力。	1. to equip students with basic nutritional knowledge and understanding of the role of food components in the maintenance of human physiological functions and prevention of diseases. 2. to develop students' interest in researching innovative food products and taking advanced nutrition courses by integrating the knowledge of the core areas of food science. 3. to develop students' ability to compile information, collaborate with peers, think analytically, and communicate.	3	Required Course	食品科學系生物科技組 Department of Food Science	SDG4

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2022	Undergraduate	B3A0216L	2	A	分析化學(二)	Analytical Chemistry (Ⅱ)	本課程旨在引導學生熟稔化學分析技術以及適當地選擇及應用分析方法的能力，藉以養成生物技術、法醫學、食品科學、材料科學、臨床化學、環境科學等銜接學科中數據分析及實驗設計的基本知能。	The course is to acquaint the student with laboratory techniques for chemical analysis and the appropriate selection and use of these methods for their future success in data analysis and experimental design of any chemical related problems in every scientific disciplinary including chemistry, biology, biotechnology, forensic science, food science, material science, clinical chemistry, environmental science, etc.	2	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A0216M	2	A	分析化學實驗(二)	Analytical Chemistry Lab. (Ⅱ)	本課程旨在引導學生熟稔化學分析技術以及適當地選擇及應用分析方法的能力，藉以養成生物技術、法醫學、食品科學、材料科學、臨床化學、環境科學等銜接學科中數據分析及實驗設計的基本知能。	To learn and master the basic skills needed to perform quantitative analytical measurements (mass and volume measurements, quantitative transfer, etc.) To understand and apply a variety of chemical reactions (precipitation, acid-base, complexation, and oxidation-reduction) for the quantitative analysis of three or more certified unknowns To introduce students to formal laboratory report writing To learn how to calculate the concentration of an analyte in an unknown sample (and the associated uncertainty, when applicable) To learn how to handle the statistical treatment (mean, standard deviation, 95% confidence interval, etc.) of experimental data obtained via volumetric and instrumental methods of analysis To understand the difference between accuracy and precision of the results obtained	1	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A02448	2	A	生物化學實驗(一)	Biochemistry Lab. (I)	使同學熟悉生物化學實驗基本操作.	Skill for experimental technique of biochemistry	1	Required Course	食品科學系生物科技組 Department of Food Science	SDG4
2022	Undergraduate	B3A03A29	3	A	食品加工實習(一)	Food Products Technology Lab. (I)	本課程之目的在介紹各種類食品加工方法運用之實務，及原料在加工中其化學、物理變化現象之解明等。	The purpose of this course is to introduce the practical application of various types of food processing methods and to explain the phenomena of chemical and physical changes in raw materials during processing.	2	Required Course	食品科學系生物科技組 Department of Food Science	SDG4、SDG9
2022	Undergraduate	B3A03167	3	A	分子生物學	Molecular Biology	Objectives: Our objective is to provide a stimulating environment in which students can obtain: a) an in-depth understanding of the organization, replication and expression of the genetic material in prokaryotic and eukaryotic cells, b) an understanding of contemporary methods and approaches used in the analysis of gene structure and function, c) experience and confidence in applying this knowledge to solve new and interesting problems in molecular biology. --- ** The purpose of this	Objectives: Our objective is to provide a stimulating environment in which students can obtain: a) an in-depth understanding of the organization, replication and expression of the genetic material in prokaryotic and eukaryotic cells, b) an understanding of contemporary methods and approaches used in the analysis of gene structure and function, c) experience and confidence in applying this knowledge to solve new and interesting problems in molecular biology. --- ** The purpose of this course is intended fo	4	Required Course	食品科學系生物科技組 Department of Food Science	SDG3、SDG4
2022	Undergraduate	B3A034KS	3	A	微生物技術工程	Microbial Technology and Engineering	本課程目的為使學生了解微生物生物技術及微生物生技產業發展相關知識	Student will understand the methods and techniques of microbial engineering and the industrial development of microbial biotechnology	2	Elective Course	食品科學系生物科技組 Department of Food Science	SDG2、SDG3、SDG4
2022	Undergraduate	B3A030EI	3	A	專題演講(一)	Undergraduate Seminar (I)	增進同學不同領域之課外知識及驗證所學理論。	To enhance students' extracurricular knowledge in different areas and to validate theories learnt.	1	Elective Course	食品科學系生物科技組 Department of Food Science	SDG4、SDG8、SDG17
2022	Undergraduate	B3903277	3	A	水產化學(一)	Marine Biochemistry (I)	使學生對水產動物肌肉之生化學基本特性及在貯藏、凍結、凍結貯藏及其他加工過程之特性變化有較深入的瞭解	To enable students to have a better understanding of the basic biochemical properties of aquatic animal muscle and the changes in its properties during storage, freezing, cold storage and other processing.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3904A53	4	A	食品微生物學實驗	Microbiology of Foods Lab.	本課程目標乃藉由實際操作培養及訓練學生具有獨立分析食品相關微生物之能力	The objective of this programme is to develop and train students to be able to analyse food-related microorganisms independently through hands-on practice.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3904A53	4	B	食品微生物學實驗	Microbiology of Foods Lab.	培育修畢本課程的學生具有初步獨立進行基礎食品相關微生物學實驗之能力	To equip students who have completed this programme with the ability to carry out basic food-related microbiology experiments independently.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG4

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2022	Undergraduate	B3904H1F	4	A	食品基因重組	Food genetic recombination	基因食品是基因改造食品(Genetically Modified Food)的簡稱，是以人為的方式分離基因，再轉植入另一生物體內，所種植或養殖出的產物及其相關產品。例如，把能對抗殺蟲劑的基因轉殖到農作物中，可減少噴灑殺蟲劑的劑量；或者把製造維生素或礦物質的基因，轉殖到大豆、玉米的種子中，則可強化營養素的含量，或是含有抗生素成分的香蕉；甚至帶有霍亂疫苗基因的薯條。 基因改造食品係指利用基因工程技術而生產獲得特性經過改造之食 品。現有之技術所能達成之改良特性有增加生長速度、改良營養價值、抗蟲、抗病、抗除 草劑、抗低溫、延長保存期限、耐運送或利於加工等。	Genetically modified food is an abbreviation for genetically modified food, which is a product and its related products grown or bred by isolating genes in a human manner and then transferring them into another organism. For example, if a gene that can resist pesticides is transferred into a crop, the amount of pesticides sprayed can be reduced; or if a gene that makes vitamins or minerals is transferred into the seeds of soybeans or corn, the content of the nutrients can be enhanced; or bananas containing antibiotics can be produced; or even French fries with the gene for a cholera vaccine can be produced. Genetically modified (GM) food refers to food products that have been produced using genetic engineering techniques to obtain modified characteristics. Genetically Modified Foods (GMF) are foods produced using genetic engineering techniques to obtain modified characteristics. Existing technologies can achieve improved characteristics such as increased growth rate, improved nutritional value, insect resistance, disease resistance, herbicide resistance, low temperature resistance, and prolonged growth. The characteristics that can be achieved by existing technologies include increased growth rate, improved nutritional value, pest resistance, disease resistance, herbicide resistance, low temperature resistance, extended shelf life, resistance to transport, or ease of processing.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3904R68	4	A	儀器分析(二)	Instrumental Analysis (Ⅱ)	本課程旨在使同學熟悉質譜及之原理、判讀及應用與常用色層分析之原理、應用及操作。	The aim of the course is to introduce the students to the main methods of instrumental analysis. The students will gain an understanding of mass spectroscopy and chromatographic separation.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B390245A	2	A	生物化學(一)	Biochemistry (I)	探討生命科學之基本化學反應原理機制，此課程為進入生物科技相關學門的必要關鍵。	This course explores the fundamental mechanisms of chemical reactions in the life sciences and is essential for entry into biotechnology-related disciplines.	3	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903649	3	A	食品行銷管理	Food marketing management	為因應社會需求及產業發展之多元趨勢，增拓學生跨領域知識及技能，以提升學術研究及就業競爭力，本課程教導學生學習食品保健及行銷管理等專業知識，著眼於培養學生食品行銷管理專長，使學生修習本學程後能具備以下各種知能，為未來進入食品、健康、生技或醫藥等相關產業後之行銷管理能力作良好準備。願景為透過課程使修習之學生能完整建構食品行銷管理領域五大面向之專業知能，並能善用所學積極掌握各種面向之趨勢發展及未來就業機會。本課程乃有系統地探討行銷管理理論及其應用，強調重要觀念的解析，並以國內外實例與生活見聞來解釋學理的應用，藉以提升同學對行銷議題的興趣，並培養同學分析與解決行銷問題的專業能力。	In order to meet the needs of the society and the diversified trend of industrial development, and to broaden students' cross-disciplinary knowledge and skills so as to enhance their competitiveness in academic research and employment, this programme teaches students to learn the professional knowledge of food and health care as well as marketing management, and focuses on the development of students' expertise in food marketing management, so that students will be able to acquire the following knowledge after completing this programme, which will be good preparation for the marketing and management ability after entering the food, health care, biotechnology or pharmaceutical industries in future. The programme is designed to equip students with The vision of the programme is that students will be able to build up professional knowledge in the five major areas of food marketing management, and will be able to make good use of what they have learnt in order to actively grasp the development of various trends and future career opportunities. This programme is a systematic exploration of marketing management theories and their applications, with an emphasis on the analysis of important concepts and the application of the theories through domestic and international examples and life experiences, with a view to enhancing students' interest in marketing issues and developing their professional ability to analyse and solve marketing problems.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG3、SDG4、SDG12
2022	Undergraduate	B3903A26	3	A	食品化學(二)	Food Chemistry (Ⅱ)	按食品類別分述肉品、蛋類、乳品、蔬果、穀類及天然色素等之成分，特有之化學性質，貯藏與加工中之化學、生理生化變化與功能特性、食品品質安全性之關係。由原料、加工由原料，加工及貯藏中的化學與生化變化及對食品功能特性的影響，並激發學生從已知推想的能力。	To describe the composition of meat, eggs, dairy products, fruits and vegetables, cereals and natural colours, the unique chemical properties, the chemical and physiological changes in storage and processing, the functional properties and the relationship between the quality and safety of food products according to the type of food. From the raw materials, processing from the raw materials, processing and storage in the chemical and biochemical changes and the impact on the functional properties of food, and stimulate students from the known ability to imagine.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4

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2022	Undergraduate	B39041OM	4	A	食品供應鏈管理	Food Supply Chain Management	食品供應鏈管理課程是從供應鏈管理的角度管理食品安全,讓學生瞭解管理的理論以及如何實務應用於食品業。	The Food Supply Chain Management programme is designed to manage food safety from a supply chain management perspective, enabling students to understand management theories and how they can be practically applied to the food industry.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3902A71	2	A	食物學原理	The Principle of Food	讓學生了解食物材料的性質、特性、生產及基礎加工利用．以奠定將來修習食品化學的基礎。	To enable students to understand the nature, properties, production and basic processing and utilisation of food materials as a basis for their future study of food chemistry.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39030EO	3	A	專題演講(二)	Undergraduate Seminar (Ⅱ)	增進同學不同領域之課外知識及驗證所學理論。	To enhance students' extracurricular knowledge in different areas and to validate theories learnt.	1	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39031BU	3	A	飲料調製與管理	Beverage Preparation and Management	俾使學生瞭解各種飲料原料特性及管理之知識．強化學生對不同原料應用於飲料製品之技能．灌輸學生具備正確飲用飲料使從業人員具備專業態度與專業素養態度．加強反向思考能力。	To enable students to understand the characteristics and management of various beverage ingredients, to strengthen students' skills in the application of different ingredients to beverage products, to instil in students the ability to drink correctly, to equip practitioners with a professional attitude and professionalism, and to enhance the ability to think in reverse direction.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39044JY	4	A	食品發酵工程學	Food Fermentation Process Engineering	本課程目的為使學生了解基礎發酵製程技術、生技產業發酵產品開發流程及認識健康食品相關法規	Student will understand the methods and techniques of fermentation process, the development process of fermentation product in biotech industry and know the laws and regulations on health food in Taiwan.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG2、SDG3
2022	Undergraduate	B3904A19	3	A	食品衛生與安全	Food Sanitation and Safety	人人需要飲食,而吃出健康是飲食的重點,食物原材料除了要選擇新鮮,營養外 由於可能污染食物中毒菌與有毒及其他不潔的物質,所以必須經過妥善清洗與烹調,以維護攝食者的健康。本課程以傳授食品安全與衛生有關的知識,讓學生在生活中注意飲食以保持身心健康,同時講授食物調理場所及供膳場所的安全與衛生作業知識,以作為職場經營的參考。	Everyone needs to eat, and eating healthy is the focus of diet, food raw materials should be selected fresh, nutritious, and because of the possibility of contamination of food poisoning bacteria and toxic and other unclean substances, so it must be properly cleaned and cooked to maintain the health of the ingestor. This course aims to impart knowledge on food safety and hygiene so that students can pay attention to their diet to maintain their physical and mental health, as well as to teach the safety and hygienic practices in food preparation and catering establishments as a reference for workplace management.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39043KB	4	A	食品新產品開發	Food New Product Development	本課程的目標是向學生介紹食品新產品之開發流程。使學生具備能力評估開發新食品的可能性、成本效益及市場潛力。並藉由實例分享獲得食品開發新產品之技能。	The objective of this course is to introduce the development process of new food products. Provide students with the ability to evaluate the possibility, cost-effectiveness and market potential of developing new foods. Through sharing examples, students will lean the skill to developing new food products.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B390216L	2	A	分析化學(二)	Analytical Chemistry (Ⅱ)	本課程包含理論講授與實驗兩部份．旨在使同學熟悉傳統定量分析之原理、應用及操作。	This course consists of theoretical lectures and experiments to familiarise students with the principles, applications and operations of traditional quantitative analysis.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B390216M	2	A	分析化學實驗(二)	Analytical Chemistry Lab. (Ⅱ)	訓練學生經由實際操作之過程．結合學理上之知識．以嚴謹的態度取得得到正確之化學分析結果。	Students are trained to obtain correct chemical analysis results in a rigorous manner by combining knowledge of theory with practical procedures.	1	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903A54	3	A	食品微生物學	Microbiology of Foods	培養學生具備食品微生物相關知識與技術,以供其未來至食品業界與相關學術或研究單位,可運用所學執行相關實務工作,並具備分析統合及處理食品微生物相關問題.	To equip students with the knowledge and skills related to food microbiology for their future career in the food industry and related academic or research institutes, so that they can apply what they have learnt to carry out the relevant practical work, and have the ability to analyse, synthesise and deal with the problems related to food microbiology.	3	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903I38	3	A	專題討論	Seminar	1.給予修課同學訓練收集、閱讀及消化學術期刊文獻。 2.透過現場討論的方式培養積極參與學術活動的動機與辯證態度。 3.了解其他學術單位的成就及最新學術發展方向。	1. To provide students with training in collecting, reading and digesting academic journals. 2. to develop the motivation to participate actively in academic activities and the attitude of dialectic through live discussion. 3. to learn about the achievements of other academic units and the latest academic developments.	1	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39040UY	3	A	水產加工學	Fishery Food Processing	使修課同學獲取水產原料特性與保鮮處理方式；學習各種加工產品製造有關之基本原理與方法；以及認識水產加工業之產銷現況與趨勢等。	Students will learn about the characteristics of raw materials and freshness of aquatic products, learn the basic principles and methods of manufacturing various processed products, and learn about the current situation and trend of aquatic products processing industry.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3902448	2	B	生物化學實驗(一)	Biochemistry Lab. (I)	使同學熟悉生物化學實驗基本操作.	Basic techniques in biochemical research and analytical laboratories. Intended for students who are not proceeding further in biochemistry.	1	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B390260G	2	A	有機化學(二)	Organic Chemistry (Ⅱ)	以電子移動主導原理(electron movement)增進學生對有機化學理解．並強調以有機化學基礎之觀點角度．增加對生物化學以及與環境相關之有機化學的認識	The electron-movement oriented approach is employed to encourage the understanding of organic reactions. The basis biochemistry and environmental chemistry will also be covered in organic chemist`s veiw.	3	Required Course	食品科學系食品科學組 Department of Food Science	SDG4

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2022	Undergraduate	B39032OT	3	A	非熱加工技術	Non-Thermal Technologies	讓學生瞭解非熱食品加工的基本概念、原理及技術，從而認知食品加工的重要性。	Enable students to understand the basic non-thermal food processing concepts, principles and techniques to the acknowledging importance of food processing.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3902448	2	A	生物化學實驗(一)	Biochemistry Lab. (I)	使同學熟悉生物化學實驗基本操作.	Skill for experimental technique of biochemistry	1	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3902L6J	2	A	普通微生物學(二)	Microbiology (II)	本課程為主修食品科學及相關學門者，對微生物學學習的入門。	The topic of this course is to introduce the knowledge of Microbiology for the students study in the field of Food Science and related disciplines.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4、SDG8、SDG9
2022	Undergraduate	B39030GK	3	A	食品分析(含實驗)(二)	Food Analysis Lab.(II)	本課程之目的是讓學生了解市面上展售食品之品質以及將來在食品加工業從事生產時，能夠有效控制產品之品質，使其具有營養、衛生和安全並且符合法令規章之要求。	每組於實驗後撰寫實驗心得報告以及口頭問答。The purpose of this course is to provide students with an understanding of the quality of food products available on the market and the ability to control the quality of products in the food processing industry to ensure that they are nutritious, hygienic, safe, and in compliance with laws and regulations.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903A20	3	A	食品工廠管理	Food Plant Management	本課程的目的是提供學生食品工廠經營管理的基本觀念，課程主要為介紹食品工廠的活動以及決策分析的方法，課程涵蓋生產計劃、組織、控制、協調、食品企業部門及員工管理。具體來說，本課程主要目的在訓練學生： -了解經營管理的基本概念，及在食品企業的應用。 -能查詢經營管理的文獻並能應用到實例中	The purpose of this course is to provide students with basic concepts of food factory operations and management. The course is designed to introduce the activities of a food factory and the methods of decision-making and analysis. The course covers production planning, organisation, control, co-ordination, and management of food business departments and staff. The course covers production planning, organisation, control, co-ordination, food business department and staff management. Specifically, the main objectives of this course are to train students to: -Understand the basic concepts of operations management and their application in food business. -To be able to consult literature on operations management and apply it to practical situations.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903A30	3	A	食品加工實習(二)	Food Products Technology Lab. (II)	本課程之目的在讓學生有實作經驗，並與上課之學理印證。並觀察原料在加工中之化學、物理變化等。	The purpose of this course is to allow students to have practical experience and to corroborate with the theory of the previous course. Students will also observe the chemical and physical changes in the processing of raw materials.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903U82	3	A	營養學	Nutrition	本課程將介紹食品中營養素之基本原理以及營養在體內之生理代謝。	This course introduces the basic principles of nutrients in food and the physiological metabolism of nutrients in the body.	3	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39042OV	4	A	保健食品概論	Introduction Nutritional Supplement	介紹我國保健之現況，接著詳細說明其他國家之情形，讓學生能一貫性地瞭解世界各國之發展與管理的情形。	An introduction to the current state of health care in our country, followed by detailed descriptions of the situation in other countries, so that students can consistently understand the development and management of countries around the world.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3902A3B	2	A	食品加工學(二)	Food Products Technology (II)	使修課同學獲取食品科學基本知識與食品加工原理。	Enable students in the course to acquire basic knowledge of food science and food processing principles.	3	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39041IA	4	A	分子料理學	Molecular Gastronomy	本課程目的在於以科學的角度，破除一般大眾對於食品烹調的迷思，並建立學生充分瞭解食品成分分子的物理化學特性，及其運用於料理、或是加工產品的適性，同時可培養和激發學生對於創作料理及創新產品的觸角。	The aim of this course is to dispel myths about food preparation from a scientific perspective, and to develop students' understanding of the physicochemical properties of food molecules and their suitability for use in cooking or processing products, as well as to develop and stimulate students' perspectives on creating dishes and innovative products.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39041NV	4	A	食品保存技術	Food preservation technology	認識農漁牧業各種產品的變質與腐敗, 以及食品保存的重要性。學習各種食品保存的方法,利用科技以保存珍貴食糧資源與永續經營。	Familiar with the deterioration and spoilage of agriculture food product and the need of preservation. To familiarize the principles and methods of preserving perishable food, and to train the students for the ability to keep sustainable resource.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B390228N	2	A	食品安全風險評估	Food Safety Risk Assessment	1. To introduce principles of food safety risk assessment 2. To integrate and calculate risk from hazard identification, exposure results and quantitative 3. To address the uncertainties by using a probabilistic approach to risk characterization 4. To develop reading and communication skills	1. To introduce principles of food safety risk assessment 2. To integrate and calculate risk from hazard identification, exposure results and quantitative 3. To address the uncertainties by using a probabilistic approach to risk characterization 4. To develop reading and communication skills	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B390260H	2	A	有機化學實驗(二)	Organic Chemistry Lab. (II)	配合有機化學課程教學，提供學生學習實驗操作之基本技術。	This course is designed to support the teaching of Organic Chemistry and to provide students with the basic techniques of experimental manipulation.	1	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39031JO	3	A	肉品加工	Processed Meats	熟悉肉品加工學相關知識	Recognize knowledge of Meat Science	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B3903A29	3	B	食品加工實習(一)	Food Products Technology Lab. (I)	本課程之目的在介紹各種類食品加工方法運用之實務，及原料在加工中其化學、物理變化現象之解明等。	The purpose of this course is to introduce the practical application of various types of food processing methods and to explain the phenomena of chemical and physical changes in raw materials during processing.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG3、SDG4、SDG9

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2022	Undergraduate	B39030EI	3	A	專題演講(一)	Undergraduate Seminar (I)	增進同學不同領域之課外知識及驗證所學理論。	To enhance students' extracurricular knowledge in different areas and to validate theories learnt.	1	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39041K4	4	A	食品產業校外實習	Food Industry Extracurricular Practice	使同學除課堂上習得之知識外,並能實地了解校外之動態.	In addition to the knowledge gained in the classroom, students will be able to learn about the dynamics outside the school.	9	Elective Course	食品科學系食品科學組 Department of Food Science	SDG4、SDG8、SDG9
2022	Undergraduate	B3904U25	4	A	膳食療養及實驗	Therapeutic Nutrition and Laboratory	1. 使學生明瞭食物於疾病控制與治療之角色，培養學生製備疾病飲食之核心知能。 2. 結合食品科學領域知識，啟發學生主動學習之動機，培養創新研發之興趣。 3. 強化學生彙整資料、同儕合作、表達溝通、綜論分析及邏輯思考等就業或升學所需能力。	1. to enable students to understand the role of food in disease control and treatment, and to develop core knowledge in the preparation of diets for disease. 2. to integrate the knowledge of food science to stimulate students' motivation for active learning and to develop their interest in innovative research and development. 3. to strengthen students' ability to compile information, collaborate with peers, communicate, analyse and think logically for employment or further studies.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG2、SDG3、SDG4、SDG9、SDG10、SDG12、SDG16
2022	Undergraduate	B3903A39	3	A	食品冷凍機械	Food Refrigeration System	使學生具有食品冷凍機械之基本概念，進而能適應產業界之需求	The objective of this course is to introduce the basic concept of food freezing machinery, and then be able to adapt to the needs of the food industry.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG2、SDG9、SDG12
2022	Undergraduate	B39030GJ	3	A	食品分析(含實驗)(一)	Food Analysis Lab.(I)	本課程主要讓學生了解食品基質中之主要成分與次成分的分析方法種類，與其應用於不同食品種類所需要的適合公定(AOAC)的分析方法，透過實驗課程的練習，建立實驗數據的確校觀念，進而達到政府和國際的所要求的標準	This course aims to provide students with an understanding of the types of analytical methods for the analysis of major and minor components of food matrices, and the application of these methods to different food types, and to establish the concept of experimental data validation to meet government and international standards through the practice of practical courses.	2	Required Course	食品科學系食品科學組 Department of Food Science	SDG3、SDG4、SDG6
2022	Undergraduate	B3903463	3	A	生物統計學	Biostatistics	The broad objective of the course is to promote an understanding of an objective and disciplined approach in the study and analysis of problems especially those involving numerical data in experimental studies.	The broad objective of the course is to promote an understanding of an objective and disciplined approach in the study and analysis of problems especially those involving numerical data in experimental studies.	3	Required Course	食品科學系食品科學組 Department of Food Science	SDG4
2022	Undergraduate	B39040ZK	4	A	創新與研發管理	Innovation and R & D Management	課程將廣泛介紹目前食品與生技產業界的創新研發趨勢，並進行雙向之case study，另將深入探討專案管理(project management)與產品管理(product management)之職能，完整提供學生從研發產品到使其上市所需之技能與知識。另本課程也將邀集具備專業知識及豐富業界經驗之業界人員與學生分享產業現況，建立學生將基礎知識投注於產業之橋樑。	The programme will introduce the current trends of innovative R&D in the food and biotechnology industry and conduct two-way case studies. In addition, the programme will explore the functions of project management and product management in depth, providing students with the skills and knowledge required from R&D to the market launch of products. In addition, the programme will also invite industry practitioners with professional knowledge and rich industry experience to share with students the current situation of the industry, so as to establish a bridge for students to put their basic knowledge into the industry.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG1、SDG3、SDG8
2022	Undergraduate	B39044KU	4	A	應用食品過敏學	Applied Food Hypersensitivity	1.藉由課堂上學習的基本知識，幫助學生在未來能自修及拓展領域 2.瞭解人體基本免疫調控機制 3.瞭解食品過敏機轉 4.針對食品過敏主題進行專題報告	1.To provide students easily apply the knowledge learned from the class to further self-reading, research, and other purpose. 2.To realize the basic characteristics on human immune response 3.To understand food allergy mechanism 4.To train graduate student how to prepare and present a good oral talk on food allergy topics.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG3、SDG4
2022	Undergraduate	B390345B	3	A	生物化學(二)	Biochemistry (II)	生命科學之基本化學反應原理機制探討，此課程為一切進入生物科技相關學門的必要關鍵。	This course are key to life science. All students will extend the basic knowledge and the fundamental viewpoint of Biomedical Sciences.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG2、SDG3、SDG4、SDG9、SDG10、SDG12、SDG16、SDG17
2022	Undergraduate	B3903815	3	A	油脂加工	Lipid Processing	油脂為食品之主要成分之一，提供熱量、風味及必需營養。課程將從油脂基礎的分類以及物理化學特性為出發點，介紹食用油脂的加工製作方式、油脂相關加工技術以及油脂之檢測與品質鑑定等相關議題。旨欲培養學生對油脂加工議題的深入知識。	Upon completion of this course, students will have advanced knowledge on the processing of edible oils.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG2、SDG3、SDG9
2022	Undergraduate	B390440G	4	A	食品發酵技術與開發功能性食品	Food Fermentation Technology and Development of Functional Food	介紹食品工業之發展現況及展望。並瞭解近年來發展或流行的食品加工技術及應用，探討特定保健功能產品及其在保健食品的開發。	Introducing the development and prospect of food industry as well as teaching students to realize the identification, principle and application of novel or alternative food processing. To investigate of specific functional food products and its application of new functional food	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG3、SDG4、SDG12
2022	Undergraduate	B3904N2J	4	A	新穎食品加工技術	Novel Food Processing	使修課同學獲取食品加工保藏技術之與食品加工原理。	Students will learn about food processing and preservation techniques and the principles of food processing.	3	Elective Course	食品科學系食品科學組 Department of Food Science	SDG9、SDG11、SDG12

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2022	Undergraduate	B3903A38	3	A	食品冷凍學	Frozen Foods Technology	本課程就冷凍的原理、加工技術做一系列介紹，期以奠定學生在食品保藏之基礎。教導學生低溫保存食品的原理, 介紹各種食品凍結與加工的方法, 探討冷凍加工過程中品質的變化, 使學生瞭解食品冷凍產業的運作現況, 進而具有生產、品管、及研發低溫產品的能力。	This course is a series of introduction to the principles of freezing and processing technology, with the aim of laying a foundation for students in food preservation. Students are taught the principles of low-temperature food preservation, introduced to various food freezing and processing methods, and explored the changes in quality during the freezing and processing process, so that students can understand the current operation of the food freezing industry, and then have the ability to produce, quality control, and research and development of low-temperature products.	2	Elective Course	食品科學系食品科學組 Department of Food Science	SDG2、SDG6、SDG8、SDG9、SDG11、SDG12、SDG14
2022	PH.D Program	D3201169	1	A	分子免疫學	Molecular Immunology	本課程提供碩博士班學生細胞分子免疫方面的基礎理論知識及應用發展思想空間，期助於食品科學研究領域中，有較深廣的視野包括特重在疾病醫學相關議題上。授課由基礎觀念導至研究和應用，因此也適合無基本免疫學背景者，非常歡迎各實驗室研究生想藉由討論方式學習的同學選修。	This course was designed through seminar presentation, that will extend the basic knowledge of immunology. The lectures will focus on intensively active areas of cellolar immunology research. Basic principles will be reinforced by considering disease states in which basic cell biological processes as well as immune response are defective.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG3、SDG9
2022	PH.D Program	D3222I38	2	A	專題討論	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	1.To provide you with an opportunity to be acquainted with other graduate students 2.To provide you with trainings in how to assess the work from scientific papers and give constructive feedbacks 3.To provide you with trainings in how to present your own research, both in writings and orally	1	Required Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D3223J25	3	A	畢業論文	Thesis	使同學習得論文的寫法。	Students will learn how to write essays.	6	Required Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D3223I38	3	A	專題討論	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	1.To provide you with an opportunity to be acquainted with other graduate students 2.To provide you with trainings in how to assess the work from scientific papers and give constructive feedbacks 3.To provide you with trainings in how to present your own research, both in writings and orally	1	Required Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D32013U8	1	A	智能化食品安全解決方案研究	Smart Total Solution Investigation of Food Safety	使修課同學學習食品科學研究相關實驗之原理與操作方法。	Students will learn the principles and methods of experiments related to food science research.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D3201U8K	1	A	環境毒物學(一)	Environment Toxicology(I)	*		3	Elective Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D32010PP	1	A	組織工程學	Tissue Engineering	組織工程學	Tissue Engineering	3	Elective Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D3222I38	2	B	專題討論	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	The aims of this class are to strengthen the abilities of students to study and organize the recent scientific literature. This class also provides an opportunity for graduate students to develop skills in oral presentation and discussion of various research topics in a public forum.	1	Required Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D32010D4	1	A	科學新知導論	Introduction on Scientific New Knowledge	加強學生對生命科學的整體性知識，同時也加入生命科學新知及分子生物學研究方法的課程，讓學生對科學本質、科學精神及研究態度有更深的認識，並提供研究生參與不同生命科學研究主題討論互動的機會。	To enhance students' overall knowledge of life sciences and to incorporate new knowledge of life sciences and molecular biology research methods into the programme, so as to enable students to have a better understanding of the nature of science, the spirit of science and the attitude towards research, and to provide opportunities for postgraduate students to participate in interactive discussions on different life sciences research topics.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D3223I38	3	B	專題討論	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	Trains postgraduate students to collect, organise and present literature on different research topics. It also provides students with the opportunity to participate in interactive discussions on different research topics.	1	Required Course	食品科學系博士班 Department of Food Science	SDG4
2022	PH.D Program	D3201A72	1	A	健康食品特論	Advanced Health Food	為因應我國衛生署訂定健康食品規範、國際間消費者健康訴求議題及提升食品附加價值研發工作，特以此課培育養成相關專業人才	This course was designed through seminar presentation, that will extend the basic knowledge of Health Food. The lectures will focus on intensively active areas of cellolar immunology research. Basic principles will be reinforced by considering disease states in which basic cell biological processes as well as immune response are defective.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG3、SDG9、SDG17

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2022	PH.D Program	D32014LC	1	A	營養成分動力學	Nutrikinetics	課程將探討食品中的營養成分經由攝食後是如何被人體吸收進而產生生理活性，並以這些基礎背景延伸至生活知識及目前產業之應用。本課程為新興學科，所採用之教材為教師本人整理編成之講義，旨欲建立學生對營養物質的口服劑量及其於人體吸收之基礎架構概念。	Upon completion of this course, students will be familiar with nutrikinetic issues, and possess the basic knowledge of oral bioavailability and dosage effect, which are required for entry into the dietary supplements industry.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG3、SDG4
2022	PH.D Program	D3213I38	3	B	專題討論	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	The aims of this class are to strengthen the abilities of students to study and organize the recent scientific literature. This class also provides an opportunity for graduate students to develop skills in oral presentation and discussion of various research topics in a public forum.	1	Required Course	食品科學系博士班 Department of Food Science	SDG1、SDG3、SDG4、SDG6、SDG9、SDG12
2022	PH.D Program	D3201667	1	A	免疫學	Immunology	為日間部學院生物技術學程課程，宗旨是期待能增加生命科技的發展性及因應國際間免疫科技之教學趨勢，教授及探討基本學術原理及日常生活性、產業研發的免疫機制議題，因此本課程為有志進入生技產學界的必要選擇考慮。	This course was designed through seminar presentation, that will extend the basic knowledge of immunology. The lectures will focus on intensively active areas of cellolar immunology research. Basic principles will be reinforced by considering disease states in which basic cell biological processes as well as immune response are defective.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG3、SDG17
2022	PH.D Program	D32011IJ	1	A	中藥學	Introduction to the Chinese Medicines	增加學生對於對中醫藥有基本概念認識 啟發學生以現代科學方法研究中藥	This course will introduce students to the basic concepts of Traditional Chinese Medicine (TCM) and inspired the students employing the modern research methodology to study the effect of TCM.	3	Elective Course	食品科學系博士班 Department of Food Science	SDG1、SDG3、SDG4、SDG12
2022	PH.D Program	D3212I38	2	B	專題討論	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	The aims of this class are to strengthen the abilities of students to study and organize the recent scientific literature. This class also provides an opportunity for graduate students to develop skills in oral presentation and discussion of various research topics in a public forum.	1	Required Course	食品科學系博士班 Department of Food Science	SDG1、SDG3、SDG4、SDG6、SDG9
2022	Contiuning Education Bachelor Degree Program	E42024HJ	2	A	乳蛋品加工	Milk and Egg Processing	同學能在本課程中學習到乳品與蛋品的化學基礎，進而延伸應用在加工與食品設計。	In this course, students will learn the fundamentals of dairy and egg chemistry, which can be extended to applications in processing and food design.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG2、SDG3
2022	Contiuning Education Bachelor Degree Program	E4203U57	4	A	應用微生物學	Applied Microbiology	微生物表現出新陳代謝的可塑性，即它們適應並可存活於一直改變的生物圈中，因此與複雜的生命形式相比，它們無所不在。生物化學、分子生物學和生理學方面的進展，提供許多工具讓我們了解微生物的遺傳和代謝組成，這些微生物已適時地演化出成功的生存模式。人類已從不同的生態條件中找出了數千種的微生物，而且可以用不同的培養條件純化它們，然而仍有許多微生物仍待探索或培養出來。 應用微生物學主要與在全世界具有經濟，環境和社會重要性的過程和產品中直接或間接利用這些微生物有關。與基因工程相關的知識通過增強所需的性狀並從微生物中去除不想要的性狀，從而徹底改變了應用微生物學，從而增強了其商業應用性。	Microorganisms exhibit metabolic plasticity, i.e., they adapt and survive in the ever-changing biosphere, and are therefore ubiquitous compared to complex life forms. Advances in biochemistry, molecular biology and physiology have provided many tools for understanding the genetic and metabolic composition of microorganisms that have evolved in time to succeed in their survival mode. Thousands of species of microorganisms have been identified from different ecological conditions and can be purified using different culture conditions, yet many remain to be explored or cultured. Applied microbiology is primarily concerned with the direct or indirect utilisation of these microorganisms in processes and products of economic, environmental and social importance worldwide. Knowledge related to genetic engineering has revolutionised applied microbiology by enhancing desired traits and removing unwanted traits from microorganisms, thereby enhancing their commercial applicability.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG4
2022	Contiuning Education Bachelor Degree Program	E42034A0	4	A	細胞生物學	*	細胞是生命的基本功能單位，單細胞生物在人體表面及腸道內更無所不在。人體具有多樣的細胞類型，經排列成特定結構，進而相互聯繫成不同器官且發揮個別功能。人類的細胞可以分離及培養。功能不正常的細胞易癌化。最新生物醫學發展例如細胞療法、幹細胞研究，以及客製化和再生醫學，皆源於對細胞的分析、理解和操作運用。若未瞭解細胞和細胞生物學，便無法理解現代生物科技研發與實用方向。因此，本課程目標是：(1)協助學生認識細胞中的精細構造、功能及相關生化大分子；(2)使學生了解細胞及分子生物學家以何種角度發出問題，並經由何種的實驗過程來尋找答案。	Cells are the basic functional units of life, and single-cell organisms are found on the surface of the human body and in the intestines. The human body has a wide variety of cell types, which are arranged into specific structures and are then interconnected to form different organs and perform individual functions. Human cells can be isolated and cultured. Malfunctioning cells are prone to cancer. The latest biomedical developments such as cell therapy, stem cell research, and customised and regenerative medicine are based on the analysis, understanding and manipulation of cells. Without an understanding of cells and cell biology, it is impossible to understand the direction of modern biotechnology research and development and its application. Therefore, the objectives of this programme are: (1) to help students to understand the fine structure, function and related biochemical macromolecules in cells; (2) to enable students to understand the perspectives from which cellular and molecular biologists formulate their questions and the experimental processes through which they seek to find the answers.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG4

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2022	Contiuning Education Bachelor Degree Program	E4202A38	3	A	食品冷凍學	Frozen Foods Technology	本課程就冷凍的原理、加工技術做一系列介紹，期以奠定學生在食品保藏之基礎。教導學生低溫保存食品的原理, 介紹各種食品凍結與加工的方法, 探討冷凍加工過程中品質的變化, 使學生瞭解食品冷凍產業的運作現況, 進而具有生產、品管、及研發低溫產品的能力。	This course is a series of introduction to the principles of freezing and processing technology, with the aim of laying a foundation for students in food preservation. Students are taught the principles of low-temperature food preservation, introduced to various food freezing and processing methods, and explored the changes in quality during the freezing and processing process, so that students can understand the current operation of the food freezing industry, and then have the ability to produce, quality control, and research and development of low-temperature products.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG2、SDG3、SDG6、SDG11、SDG12、SDG14、SDG17
2022	Contiuning Education Bachelor	E4203463	3	A	生物統計學	Biostatistics	The broad objective of the course is to promote an understanding of an objective and disciplined approach in the study and analysis of problems especially those involving numerical data in experimental studies.	The broad objective of the course is to promote an understanding of an objective and disciplined approach in the study and analysis of problems especially those involving numerical data in experimental studies.	3	Required Course	食品科學系進修學士班 Department of Food Science	SDG4
2022	Contiuning Education Bachelor Degree Program	E42030PQ	3	A	食品過敏學	Food Allergy	1. 藉由課堂上學習的基本知識，幫助學生在未來能自修及拓展領域 2. 瞭解人體基本免疫調控機制 3. 瞭解食品過敏機轉 4. 針對食品過敏主題進行專題報告	1.To provide students easily apply the knowledge learned from the class to further self-reading, research, and other purpose. 2.To realize the basic characteristics on human immune response 3.To understand food allergy mechanism 4.To train graduate student how to prepare and present a good oral talk on food allergy topics.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG3、SDG4
2022	Contiuning Education Bachelor Degree Program	E4203168	3	A	分子生物學	Molecular Biology	一、幫助學生建立對分子生物學的直觀與史觀。 二、縱向連結DNA、RNA和蛋白質等生物分子結構與功能之關係。 三、橫向綜論以當代分子生物學為基礎所發展出來的生物科技及應用。 四、介紹最新生物技術如基因編輯或次世代基因定序等研究發展趨勢。	1. To establish an intuitive and historical perspectives on molecular biology for students 2. To vertically connect the relationships of structure and function of biomolecules such as DNA, RNA and proteins etc. 3. To horizontally connect the biotechnological applications based on the developments of contemporary molecular biology 4. To introduce the latest trends of biotech researches and developments such as gene editing or next generation sequencing (NGS)	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG4
2022	Contiuning Education Bachelor Degree Program	E42011BU	1	A	飲料調製與管理	Beverage Preparation and Management	俾使學生瞭解各種飲料原料特性及管理之知識，強化學生對不同原料應用於飲料製品之技能，灌輸學生具備正確飲用飲料使從業人員具備專業態度與專業素養態度，加強反向思考能力。	To enable students to understand the characteristics and management of various beverage ingredients, to strengthen students' skills in the application of different ingredients to beverage products, to instil in students the ability to drink correctly, to equip practitioners with a professional attitude and professionalism, and to enhance the ability to think in reverse direction.	2	Required Course	食品科學系進修學士班 Department of Food Science	SDG3
2022	Contiuning Education Bachelor Degree Program	E4204A40	4	A	食品法規	Food Regulation	1.瞭解食品業者應遵循之相關法規。 2.能自行分析食品安全時事議題，瞭解公部門相應之管制規範。 3.能自行查找與分析國際規範及國內法規。	1. Understand the relevant laws and regulations that food industry should follow. 2. Be able to analyse current food safety issues and understand the corresponding control regulations of the public sector. 3. Be able to search and analyse international regulations and domestic regulations.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG3
2022	Contiuning Education Bachelor Degree Program	E420347D	2	A	生物技術概論	Introduction to Biotechnology	一、幫助學生建立微生物及生物分子操作型定義之基礎(技術本位)。 二、縱向連結微觀的生物分子與巨觀生物圈之間的關係。 三、橫向綜論操作微生物及生物分子對食品、醫藥、防疫、環境保護及生技產業等各領域之應用及影響。 四、介紹最新生物技術如基因編輯或次世代基因定序等研究發展趨勢。	1. To build up the fundamentals of operational definition about microorganisms and biomolecules (technical subjects) for students 2. To vertically connect the relationship between biomolecules in microcosm world and biosphere in the earth 3. To horizontally connect the applications and influences of manipulating microorganisms and biomolecules on the fields of food, medicine, epidemic prevention, environmental protection and biotech industry 4. To introduce the latest trends of biotech researches and developments such as gene editing or next generation sequencing (NGS)	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG4
2022	Contiuning Education	E4203M8D	3	A	微生物利用技術	Applied Microbialtechnology	本課程目標以微生物基本生理及相關利用技術於各產業之介紹。	The objective of this course is to introduce the basic physiology of microorganisms and the related use of technology in various industries.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG3、SDG4、SDG6、SDG7、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14
2022	Contiuning Education Bachelor Degree Program	E42042V4	4	A	食品安全風險評估	Food Safety Risk Assessment	1.瞭解風險分析，包括風險評估、風險管理和風險交流。 2.瞭解分險分析中如何以風險評估作為制定風險管理措施所提供科學依據，並瞭解為何該措施可用於保護人體健康。	1. understand risk analysis, including risk assessment, risk management and risk communication. 2. understand how risk assessment is used in risk analysis to provide a scientific basis for the development of risk management measures and why such measures can be used to protect human health.	2	Elective Course	食品科學系進修學士班 Department of Food Science	SDG3
2022	Contiuning Education Bachelor	E4202A31	2	A	食品加工學(一)	Food Products Technology (1)	本課程之目的、在介紹各種類食品加工方法、及原料在加工中其化學、物理變化現象之解明等。	The purpose of this course is to introduce various food processing methods and to explain the phenomena of chemical and physical changes in raw materials during processing.	2	Required Course	食品科學系進修學士班 Department of Food Science	SDG2

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2022	Contiuning Education	E4202M83	2	A	微生物學	Microbiology	本課程為主修食品科學及相關學門者，對微生物學學習的入門。	The topic of this course is to introduce the knowledge of Microbiology for the students study in the field of Food Science and related disciplines.	3	Required Course	食品科學系進修學士班 Department of Food Science	SDG3、SDG4
2022	Master Program	M32014JX	1	A	微生物體與代謝體學	Microbiome and Metabolomics	瞭解人體腸道微生物及相關代謝物。具備探討微生物體學與疾病關聯性之能力。學習如何分析次世代微生物體學之數據。 將微生物體學與代謝體學應用於學生論文研究領域。	Understand the human gut microbes and related metabolites. Develop the ability to explore the relationship between microbiology and disease. Learn how to analyze the data of next-generation microbiology. Apply microbiome and metabolomics to the field of student thesis research.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG2、SDG3
2022	Master Program	M3221I3T	1	B	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I3L	2	B	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M32014HN	1	A	微生物利用技術	Applied Microbialtechnology	本課程針對大學三、四年級修過微生物學之學生而設計，介紹微生物在各方面的應用情形，同時，配合基本學理，使學生充份瞭解如何有效開發各種有用的微生物資源。	The aim of this class is specific for the 3rd and 4th year undergraduate students whom already studied Microbiology for about 6 credits in our Department. And the various application of microorganisms on the different fields will be introduced to the students, to let them inderstand how to effectively develop the utilizations in all aspects by using appropriate microorganisms.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3221I3T	1	A	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	Training of gradute student, literature search, survey, integrate, and present ability in different issue, as well as participate interaction each other.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3221I3T	1	C	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train graduate students having the capabilities to collect, to manage, and expressing research papers that distributed in various topics. And provide the opportunities to let students have the chancesto diccuss with other graduate students.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I3T	2	A	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	Training of gradute student, literature search, survey, integrate, and present ability in different issue, as well as participate interaction each other.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I3T	2	B	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I4A	2	D	專題討論(生技組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M32011IB	1	A	蔬果加工特論	Advanced Fruits and Vegetables Processing	本課程目的在於讓學生充分瞭解傳統食品蔬果的特性及其加工的原理和技術，並介紹新穎蔬果加工技術，一方面促進精緻加工農產品的推廣，以期創造高附加價值及對人體有益的農產品。	This programme aims to provide students with a thorough understanding of the characteristics of traditional food vegetables and fruits as well as their processing principles and techniques, and to introduce novel processing techniques for vegetables and fruits, with a view to facilitating the promotion of refined and processed agricultural products on the one hand, and to creating high value-added agricultural products with beneficial effects on human health on the other.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4

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2022	Master Program	M32011IK	1	A	保健食品研發職能實務	Accountability Practice for R&D of Health Food	保健食品的研究與開發在近代食品科學上佔有重要的一席地位，隨著老齡化社會的發展，人們的保健觀念也從過去的疾病治療演化成為保健預防為主流。美國NIH於1999年成立NCCAM的專責機構來負責輔成及代替療法的研究，正是因為各國漸漸步入老年化社會，原有的治療保險體系逐漸無法負荷龐大的醫藥費用支出而造成過度的社會負擔，導致各國健康保險體系瀕臨破產。因此如能透過保健食品的開發與使用來提升人類的健康將可有效降低醫藥品的使用並減少健康保險體系的負擔。本課程透過保健食品研發與行銷，了解保健食品相關技術、原料、研究開發等基礎知識，加上產品製作流程企劃及討論，再配合產品研發設計概念及通路模式探討，本課程實施後預計可使學生實際了解保健食品研究與開發的基礎與實務，對於未來進入社會後之工作將有極大的助益。此外亦將講授食品 (包括健康食品 衛生安全與管理之相關法規，食品安全之評估方法，食品工廠之衛生安全管理與評核方法及食品檢驗分析方法之確效與實驗室認證等。	The research and development of health food plays an important role in modern food science. With the development of an aging society, people's concept of health care has evolved from the treatment of diseases to the mainstream of health care prevention. The NIH established the NCCAM in 1999 to be responsible for the research of complementary and alternative therapies. It is precisely because of the aging society in various countries that the original treatment insurance system is gradually unable to cope with the huge expenditure of medical expenses, resulting in excessive social burden, which has led to the near bankruptcy of the health insurance system in various countries. Therefore, if we can improve human health through the development and use of health food, we can effectively reduce the use of medical products and reduce the burden on the health insurance system. Through the research and development and marketing of health food products, this course provides students with basic knowledge of health food technology, raw materials, research and development, as well as planning and discussion of the product production process, together with the concepts of product design and development and the exploration of the channel model. It is expected that this course will enable students to gain a practical understanding of the fundamentals of the research and development of health food products, which will be of great benefit to their future work in the community. In addition, the course will also cover food (including health food) hygiene and safety regulations, food safety assessment methods, food factory hygiene and safety management and assessment methods, and the validity of food testing and analytical methods and laboratory accreditation	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M32013HI	1	A	免疫藥理學	Immunopharmacology	透過授課、討論及論文閱讀讓同學瞭解具免疫活性藥物及天然物如何作用於免疫系統，並藉此提升同學組織和邏輯思考能力。	Objective is to provide students with an understanding of how immune-active drugs and natural substances act on the immune system and to improve organizational and logical thinking skills through lectures, discussions, and paper reading.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3201A15	1	A	食品品評學	Sensory Evaluation	介紹食品品評學的原理,方法與應用, 使學生了解品評制度的建立, 構成要項, 在實驗室研究與業界研發及解析產品的官能性質等使使用的各項品評方法	This course introduces the principles, methods and applications of food quality assessment, enabling students to understand the establishment of a quality assessment system, the key elements of the system, and the assessment methods used in laboratory research, industry research and development, as well as in analysing the functional properties of products.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3201J4B	1	A	統計資料分析	Statistical data analysis	本課程的教學目的在於讓學生了解如何利用統計軟體解決生物統計的問題。	This course is designed to provide students with an understanding of how to use statistical software to solve biostatistical problems.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I3T	2	C	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train graduate students having the capabilities to collect, to manage, and expressing research papers that distributed in various topics. And provide the opportunities to let students have the chancesto diccuss with other graduate students.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3201R6G	1	A	酵素工程特論	Advanced Enzyme Engineering	利用實例解說方式，使學主對於酵素工程有更深入的瞭解。	By using practical examples, students will have a better understanding of enzyme engineering.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M32023CH	1	A	免疫毒理學	*	透過授課及討論讓同學瞭解各種環境中之物質及天然物活性成分對免疫系統之影響及探討該物質導致免疫毒性之機制。	Objective is to provide students with an understanding of the influence of various environmental substances and natural active ingredients on the immune system and the immunotoxicological mechanism caused by these substances.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3221I4A	1	C	專題討論(生技組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG8、SDG9
2022	Master Program	M32012CC	1	A	風險治理與溝通特論	Advanced Risk Assessment &Communication	1.To introduce principles of food safety risk assessment 2.To conduct an environmental risk assessment based on the USEPA methodology 3.To address the uncertainties by using a probabilistic approach to risk characterization 4.To integrate and calculate risk from hazard identification, exposure results and quantitative 5.To develop reading and communication skills	1.To introduce principles of food safety risk assessment 2.To conduct an environmental risk assessment based on the USEPA methodology 3.To address the uncertainties by using a probabilistic approach to risk characterization 4.To integrate and calculate risk from hazard identification, exposure results and quantitative 5.To develop reading and communication skills	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4

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2022	Master Program	M32012XY	1	A	基於風險之預防性控制的食安計劃	FMSA Preventive Control for Human Food	2011 年 1 月通過美國食品安全現代法 (Food Safety Modernization Act, FSMA), 美國食品藥物管理局 (US FDA) 於 2015 年 19月發佈要求產品在美國市場販售的國內外食品製造商，制定危害性分析和基於風 險之「食品安全計畫」，確立食品或食品原料之企業生產工廠有效地執行食品預防性控制措施，以確保消費者的食品安全與健康，制定食品安全計畫之人員須有美國 FDA 所認可的 PCQI (Preventive Controls Qualified Individual, 預防性控制資格人員) 資格，對於外銷國際之食品企業人員能夠加強人類食 品安全預防措施之能力，擴展近代食品法規與通則之國際視野。為此, 教授本校食科系碩士及大四同學, 以便加強未來任職之能力, 經考試及格可取得証書,	To train student understand the US FDA Food Safety Modernization Act (FSMA) in 2015 issued Current Good Manufacturing Practice, Hazard Analysis, and Risk-based Preventive Controls for Human Food regulation; so that student will be able to be a “Preventive Controls Qualified Individual.”	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I3L	2	D	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I4A	2	C	專題討論(生技組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG8、SDG9
2022	Master Program	M3221I3L	1	D	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222I3L	2	A	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3201917	1	A	毒物學(二)	Food Toxicology (Ⅱ)	使學生認識毒物之多元性及相關毒理作用	To enable students to understand the diversity of poisons and their related toxicological effects.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3212J25	2	A	畢業論文	Thesis	使同學習得論文的寫法.	The students will learn how to write essays.	3	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3221I3L	1	A	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3221I3L	1	B	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3221I4A	1	D	專題討論(生技組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3222J25	2	A	畢業論文	Thesis	使同學習得論文的寫法.	The students will learn how to write essays.	3	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M32011NL	1	A	冷凍食品加工技術特論	Advanced Frozen Food Technology	以小組討論方式，針對數種新穎冷凍食品加工技術，探討低溫保存食品的原理, 各種食品凍結和解凍方法及其冷凍或解凍中的品質變化。期望學生認識新的食品冷凍研究現況及食品冷凍技術的應用。	Through group discussion, students will explore the principles of low-temperature preservation of food, the various methods of freezing and defrosting, and the changes in quality during freezing and defrosting, focusing on a number of new frozen food processing technologies. Students are expected to learn about the current state of food freezing research and the application of food freezing technology.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG2、SDG9、SDG12
2022	Master Program	M32014KT	1	A	應用微生物學特論	Advances in Applied Microbiology	本課程之目標在教授學生認知微生物對於人類福祉為一重要生物資源。授課內容涵蓋其在製藥、發酵、食品、工業、農業、環保復育、近代生物科技、基因、蛋白質等之研究開發與應用。	The objective of this course is to teach students to recognise microorganisms as an important biological resource for human well-being. The course covers the research and development of microorganisms in pharmaceuticals, fermentation, food, industry, agriculture, environmental conservation, modern biotechnology, genetics, proteins, and other applications.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG2、SDG3、SDG4

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2022	Master Program	M32014KX	1	A	食品產業智能化創新與研發	Innovative food industry and product development by AI technique	本課程主要結合產業界有產品研發經驗之主管等相關產學師資，介紹目前產業界食品加工研發與品管應用人工智慧技術，由銀髮族肉品開發、食品添加物應用、食品保健原料使用、穀類加工品質分析、非破壞性偵測技術在食品工業之新產品開發應用與加工品管數據收集與分析，進行加工食品、植物肉及穀類食品智能化研發新產品等關鍵技術整合說明。	This course mainly combines the product development experience of the industry, such as the director of the relevant industry teachers, to introduce the current industry food processing research and development and quality control applications of artificial intelligence technology, from the silver hair meat development, food additives applications, food health raw materials, cereal processing quality analysis, non-destructive detection technology in the food industry of the application of the development of new products and processing of data collection and analysis of quality control for processed foods, plant-based meat and cereals intelligent research and development of new products, such as the integration of key technologies to explain.	1	Elective Course	食品科學系碩士班 Department of Food Science	SDG12
2022	Master Program	M32014KZ	1	A	全球化保健食品開發與認證實務	Global health food development and certification practice	新冠肺炎疫情蔓延，消費者更注重自身健康，營養保健食品業異軍突起成長契機。在後疫情時代國內外保健市場該如何佈局將是產業的機會與挑戰，以保健食品站在預防醫學的角度，且同時具有增加營養促進健康，受到各國政府以及個人健康意識抬頭的青睞。本課程安排全球保健食品產業的市場環境、產業發展與未來展望進行介紹。而後安排國內、亞太地區、東協與歐美國家，針對各市場保健營養食品相關法規管理現況及市場趨勢，內容其包括各國保健食品管理法規、目標市場法規管理制度、國內外市場脈動及推廣實務等，瞭解國內保健營養食品業者如何建造國內外通路開拓市場。	With the spread of the new pneumonia epidemic, consumers are paying more attention to their own health, and the nutritional health food industry has emerged as a growth opportunity. How to lay out the domestic and international health care market in the post epidemic era will be an opportunity and challenge for the industry. Health food stands in the perspective of preventive medicine, and at the same time has the ability to increase nutrition to promote health, which has been favoured by the governments of various countries as well as the rise of personal health awareness. In this course, we will introduce the market environment, industry development and future outlook of the global health food industry. The course will also introduce the current status and market trend of health food regulations in China, Asia-Pacific, ASEAN, Europe and the United States, including health food regulations, target markets, domestic and international market trends and promotion practices, so as to understand how domestic health food manufacturers can build domestic and international channels to open up the market.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG3
2022	Master Program	M32014L1	1	A	新穎加工與檢驗技術實作	Novel Food Processing and Analysis Practice	本課程以最新食品加工技術配合校內設備為學生設計新穎加工課程，並搭配自動化與人工智慧理論為主的檢測技術，讓學生一次習得加工與檢驗實作，課程以海洋大學招牌罐頭香酥海鰻製作起始，並在製作過程中放入無線溫度記錄器於罐內，體驗自動化熱殺菌值等重要製罐參數實作，課程中加入極速微波乾燥與超高壓加工等新型加工技術，並設計產品分析實驗，讓學生實際比較與感受新型加工與傳統加工下產品之異同，現今休閒食品於國人飲食中所占比例越來越大，實作課也加入時下流行的咖啡烘焙，使學生了解熱反應風味生成原理，透過適合的烘焙加工手段可以調控化學反應而形成香氣物質，生產出具有特色的咖啡，而後將以固液二相萃取理論導入課程，並讓學生實地沖泡出金杯咖啡，與杯測品評練習，並以最新食品非目標物分析技術概念，實際操作電子鼻感測器取得咖啡氣味描述數據，利用電腦人工智慧計算與預測咖啡香氣，並可以與預先準備之摻偽咖啡，學習鑑別摻偽之非目標物分析技術。	This course uses the latest food processing technology with on-campus equipment to design a novel processing course for students, and with automation and artificial intelligence theory-based inspection technology, students can learn the processing and inspection practices in one go. The course starts with the production of Ocean University's signature canned eel, the crispy eel, and puts a wireless temperature recorder in the can during the production process to experience the automated heat sterilisation value and other important parameters of canning. In the course, new processing technologies such as extreme microwave drying and ultra-high-pressure processing are added to the course, and product analysis experiments are also designed to allow students to actually compare and feel the differences and similarities between products made under the new processing and traditional processing. Nowadays, leisure food accounts for an increasing proportion of the national diet, the practical class also added the popular coffee roasting, so that students understand the heat reaction and flavour generation principle, through the appropriate roasting and processing means can be adjusted to the formation of chemical reactions and aroma substances, the production of coffee with special characteristics, and then solid-liquid two-phase extraction theory into the course, and allow students to brew a gold cup of coffee, and cupping evaluation exercises. And the concept of the latest food non-target analysis technology, the actual operation of the electronic nose sensor to obtain the description of the coffee odour data, the use of computer artificial intelligence to calculate and predict the aroma of coffee, and can be prepared with adulterated coffee, learning to identify adulteration of non-target analysis technology.	1	Elective Course	食品科學系碩士班 Department of Food Science	SDG12

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M32014LB	1	A	綠色萃取特論	Principles and Practice of Green Extraction	面對地球暖化等氣候變遷議題，台灣更應積極找回自然界的生態循環。「循環經濟」成為重要的解方，有別於「線性生產」，循環經濟設計讓生產能形成一循環的生態迴圈，在過程中不會產生任何廢棄物而是讓廢棄物的價值被彰顯善用。本課程利用超音波/微波同步萃取機、超臨界萃取機、減壓濃縮機等核心設施，進而指導活性物質檢測、製程優化、智財申請與商品化輔導等知識。	Facing global warming and climate changes, Taiwan would be engaging to restore nature ecological cycles. Rather than traditional industrial mode that follow “take, make, waste”, in a circular economy product and materials are kept within productive use for long as possible and emphases the value of all waste. Current course not only provide core facilities including synchronize ultrasonic/microwave extractor, supercritical fluid extractor etc., but also provide knowledge related analysis bioactive compound, process optimization and commercialization.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG2、SDG3、SDG12、SDG14
2022	Master Program	M3211I3T	1	A	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	Training of gradute student, literature search, survey, integrate, and present ability in different issue, as well as participate interaction each other.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG3、SDG4、SDG17
2022	Master Program	M3211I3T	1	C	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	Training of gradute student, literature search, survey, integrate, and present ability in different issue, as well as participate interaction each other.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG8、SDG9
2022	Master Program	M32014L0	1	A	人工智慧化的食品安全管理	Artificial Intelligence and Food Safety	本課程創新將食品安全與時下最流行的人工智慧銜接，提供學生一個未來更安全的食品藍圖，在現有的科技技術支持下學習本課程擴展視野，構思出未來食品安全之方向，課程前半將介紹如何利用感測器在食品製造各階段與後市場端執行偵測，而取得數據，這數據以電腦計算加以分類，搭配人工智慧的方式可以執行預測、預警、自動化等應用，如：結合物聯網應用於食品產銷履歷、供應鏈自動管理、與食品安全預警等，訓練學生應用於食品產業中會遇到的各種狀況，而食品安全管理是建立在風險評估的基礎上，因此在課程後半會導入風險評估於食品安全管理之應用，針對風險評估、膳食調查等龐大數據，利用大數據與人工智慧運算分析，可以更快速地得到許多重要的參數如：食品殘留容許量、建議每日攝取量、毒性當量等，用以建立食品安全管理基礎。	This course innovatively connects food safety with the most popular artificial intelligence to provide students with a blueprint for safer food in the future. With the support of existing technology, students can expand their horizons and think about the direction of food safety in the future. The first half of the course will introduce how to use sensors to detect the various stages of food manufacturing and after-market end, and obtain data, which are classified by computer computation, with artificial intelligence can be carried out in the way of prediction, warning, automation and other applications, such as: the combination of the Internet of Things applied to food production and marketing history, automatic management of the supply chain, and food safety warning, etc., to train students to apply to the various situations that will be encountered in the food industry. The food safety management is based on risk management. Food safety management is based on risk assessment, therefore, the second half of the course will introduce the application of risk assessment in food safety management, focusing on risk assessment, dietary surveys, and other large amounts of data, the use of big data and artificial intelligence algorithms and analyses, can be more quickly obtained many important parameters, such as: food residue allowances, recommended daily intake, toxicity, etc., in order to establish the basis of food safety management.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG9
2022	Master Program	M3201A43	1	A	食品科學研究法	Methodology of Food Science	使修課同學學習食品科學研究相關實驗之原理與操作方法。	Students will learn the principles and methods of experiments related to food science research.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG3、SDG4
2022	Master Program	M3211I3L	1	A	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3212I4A	2	C	專題討論(生技組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG8、SDG9
2022	Master Program	M32010PN	1	A	蛋白質體學	Proteomics	1. 藉由課堂上學習的基本知識，幫助學生在未來能自修及拓展領域 2. 瞭解基因體學、蛋白質體學、生物資訊學間的關係 3. 瞭解功能性蛋白質在特定生理功能或遺傳缺陷上扮演的角色 4. 擷取蛋白質體學相關的經典文獻	1.To provide students easily apply the knowledge learned from the class to further self-reading, research, and other purpose. 2.To realize the basic relationships among genomics, proteomics, and bioinformatics. 3.To understand the impacts of global functional protein on cancer and immunological diseases. 4.To catch newly updated proteomics tools and understand classic academic achievements.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG3、SDG4

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2022	Master Program	M32024L2	1	A	食品驗證與摻偽管理	Food Accreditation and Fraud Mitigation	食品安全與食品摻偽是時下流行的議題，然而傳播媒體常常將食品安全與食品摻偽混為一談，但科學上對於二者的定義與內涵並不相同，防範與確保它們不會發生的方式也不盡相同，身為食品人，我們有必要清楚了解與界定食品摻偽與食品安全的異同，對於國際間如何利用各種現代化驗證制度來確保食品安全，以及減緩食品摻偽所必備的知識，將在本課程中將全數託付，課程內容以國際間主要之食品驗證制度如GFSI驗證體系、FSSC22000等作為框架，除了討論確保食品安全的手段之外，也導入食品摻偽觀念及如何執行VACCP管理模式來減緩食品摻偽所帶來的危害，而防範食品摻偽的分析技術 - 非目標物分析技術，與具有預防食品摻偽的食品摻偽資料庫分析，也將創新的在課程中熱烈展開，課程後期將以國內的優良食品發展，以及潔淨標章新概念，將大環境為追求美好食品的未來帶給各位同學，引發同學對食品安全的重視，	Food safety and food adulteration are popular issues nowadays, however, the media often mix up food safety and food adulteration, but the scientific definition and meaning of the two are not the same, and the way to prevent and ensure that they do not happen is not the same, as a food person, we need to clearly understand and define the similarities and differences between food adulteration and food safety, and how to make use of the various modern verification systems to ensure food safety and mitigate the necessary knowledge in this course will be entrusted in full. The knowledge necessary to ensure food safety and to mitigate food adulteration will be fully entrusted in this course. The content of the course is framed by major international food verification systems such as GFSI, FSSC22000, etc. In addition to discussing the means to ensure food safety, the course also introduces the concept of food adulteration and how to implement the VACCP management model to mitigate the hazards of food adulteration, and the analytical techniques to prevent food adulteration - the analysis of non-targets, and the analysis of food adulteration prevention techniques. The analysis techniques for preventing food adulteration - non-objective analysis techniques, and the analysis of food adulteration database with the prevention of food adulteration will also be innovatively and enthusiastically developed in the course. The development of domestic good food and the new concept of clean label will be used in the latter part of the course to bring the environment to the pursuit of the future of the good food to all the students, and to induce the students to pay more attention to the food safety.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG6
2022	Master Program	M3212I3T	2	A	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	Training of gradute student, literature search, survey, integrate, and present ability in different issue, as well as participate interaction each other.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG3、SDG4、SDG9、SDG17
2022	Master Program	M32014KY	1	A	精準營養與健康促進創新	Precision Nutrition, Health Promotion and Innovation	1. 使學生了解飲食型態、營養素對於健康之重要性； 2. 講解利用大數據分析評估疾病風險之方法。	1. to enable students to understand the importance of dietary patterns and nutrients to health. 2. to explain the use of big data analysis to assess disease risk. 2. to explain the use of big data analysis to assess the risk of diseases.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG2、SDG3、SDG4、SDG9、SDG10、SDG12、SDG16
2022	Master Program	M3201A1B	1	A	食品危害分析實務	HACCP Theory and Application	無	None	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG3、SDG6、SDG12
2022	Master Program	M3211I4A	1	C	專題討論(生技組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG3、SDG4、SDG9、SDG10、SDG12、SDG16、SDG17
2022	Master Program	M320146P	1	A	生物聚合物	Biopolyme	一、使同學了解生物聚合物之基本物化特性。 二、使同學了解生物聚合物之於食品、生醫及其他領域之應用。	1.To provide students with an understanding of the basic physical and chemical properties of biopolymers. 2.Students will learn about the applications of biopolymers in food, biomedical and other fields.	3	Elective Course	食品科學系碩士班 Department of Food Science	SDG9、SDG12
2022	Master Program	M3212I3L	2	D	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG3
2022	Master Program	M3212I3T	2	C	專題討論(化學組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG3、SDG4、SDG9、SDG10、SDG12、SDG16
2022	Master Program	M3212J25	2	A	畢業論文	Thesis	使同學習得論文的寫法.	The students will learn how to write essays.	3	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M32014OK	1	A	微生物生理學	Microbial Physiology	本課程針對微生物結構、生長與代謝、運送與運動、發酵作用、DNA與RNA合成與修補進行討論，並利用科學文獻探討微生物生理學的應用。	This course discusses microbial structure, growth and metabolism, transport and movement, fermentation, DNA and RNA synthesis and repair, and uses scientific literature to explore applications of microbial physiology.	2	Elective Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3211I3L	1	B	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3211I3L	1	D	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG3

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2022	Master Program	M3212I3L	2	A	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Master Program	M3212I3L	2	B	專題討論(加工組)	Seminar	訓練研究生在不同研究主題文獻收集、整理與表達之能力。同時提供學生參與各項不同研究主題討論互動的機會。	To train postgraduate students in the collection, organisation and presentation of literature on different research topics. It also provides opportunities for students to participate in interactive discussions on different research themes.	1	Required Course	食品科學系碩士班 Department of Food Science	SDG4
2022	Undergraduate	B95013LH	1	A	職業教育訓練與生涯規劃	Vocational education training and career development	依教育部106年6月1日臺教師(二)字第1060076930號函規定，105學年度起師培生配合技職法修正，「職業教育與訓練」、「生涯規劃」相關課程，列為師資職前教育課程必修學分。本校師資培育中心108學年度將該2門課程合併為職業教育訓練與生涯規畫(1學分)。透過課程介紹讓師資生了解職業教育訓練以及生涯規劃在教育領域的應用，期師培生具備教育學生多元升學的能力與觀念。 二、課程目標 1.了解職業教育與訓練(VET)的概念與制度 2.了解生涯規劃的目的與方法 3.體驗不同類型教育體系的教學方式 4.具備多元升學的概念與教學能力 5.具備生涯發展與生涯諮詢應用能力 6.認識國際生涯發展諮詢師(Career Development Advisor，CDA）系統與運用	According to the Ministry of Education's letter No. 1060076930 dated June 1, 106, Taiwan Teachers (II), from the 105th school year onwards, teacher training students, in line with the revision of the Technical Vocational Law, will have "Vocational Education and Training" and "Career Planning" courses included as required credits in the pre-service education curriculum for teacher education. In the 108th academic year, the Centre for Teacher Education merged these two courses into Vocational Education and Training and Career Planning (1 credit). Through the introduction of the course, teacher education students will understand the application of vocational education training and career planning in the field of education, and will be equipped with the ability to educate students for diversified education. Course Objectives 1. to understand the concepts and systems of Vocational Education and Training (VET). 2. to understand the purpose and application of career planning. 2. to understand the purpose and methods of career planning 3. to experience the teaching methods of different types of education systems. 4. to have the concept and teaching ability of diversified education. 5. to have the ability to apply career development and career counselling. 6. understand the international Career Development Advisor (CDA) system and its application.	1	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG8、SDG10
2022	Undergraduate	B9500Y48	1	A	班級經營(教)	Classroom Management	1.了解班級經營的理論與內涵 2.熟練班級的規劃與實施 3.運用班級活動的設計 4.熟悉親師溝通的理想與實際 5.體會稱職教師的角色與義務	1. Understand the theory and connotation of classroom management. 2. Be familiar with the planning and implementation of classroom activities. 3. Apply the design of classroom activities. 4. Familiarise themselves with the ideals and practices of parent-teacher communication. 5. Understand the roles and responsibilities of competent teachers.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG10
2022	Undergraduate	B95010E1	1	A	教師專業發展	Teacher Professional Development	本課程擬透過營造互為主體真誠對話的關係，探討他山之石優質轉型的案例、系統思考真實困境議題，與生態、社會和大我連結，形成最佳因應策略，培養「透過教育實踐與省思，以發展溝通、團隊合作、問題解決及持續專業成長的意願與能力」之專業素養。具體的學習目標如下： （一）透過批判性反思與對話，形成專注投入、遵循倫理、追求卓越的積極信念 （二）培養創新價值、調和緊張和困境，及承擔責任的轉型能力 （三）開放思維、心靈與意志，系統思考，啟動內在深層的思維轉型 （四）透過以專案為基礎的學習，整合能力發揮影響力	This course intends to create a relationship of sincere dialogue with each other , explore cases of high-quality transformation, systematically think about real dilemma issues, connect with ecology, society and the self, form the best response strategy, and cultivate "through educational practice and Reflect to develop the professionalism of communication, teamwork, problem solving and the willingness and ability of continuous professional growth".	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4
2022	Undergraduate	B9502Y3A	2	A	國民小學語文(國語)教材教法	Teaching Methods and Materials of Language Arts	一、學生能了解並分析九年一貫課程課程國語文學習領域目標 二、學生能熟習國小國語文領域教材的內容。 三、學生能具備運用國語文學習領域各種教學方法的能力。 四、學生能設計語文學習領域教材，選擇適當的教法，進行國語文學習領域教學。	1.students can understand and analyze the aims of chinese learning in 9-year continued curriculum 2.students can master the content of language material of primary school. 3.students can use every instructional methods of language 4.students can design and be engaged in teaching chinese.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG1、SDG3、SDG4、SDG8、SDG10、SDG11
2022	Undergraduate	B9502Y5B	2	A	國民小學教學實習(教1)	Instructional Internship	一、瞭解國民小學教學實際的現況及問題。 二、具備教案撰寫及教具蒐集製作的能力。 三、培養班級經營的技巧。 四、能運用各學習領域所需之教學策略。	1.to understand status and problem of teaching in elementary school 2.to build the ability of collecting and making media. 3.to foster the skills of classroom management. 4.to apply the teaching strategies each learning area.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG3、SDG4、SDG5、SDG10

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2022	Undergraduate	B9500Y51	1	B	教育實習(教)	Internship	1.能了解教育實習的意義和內涵，並從實際教學情境中體認教師的職務。 2.能獲得準備擔任教師的基本專業知能，並具有專業成長之能力。 3.能理解教師檢定及教師甄試之條件，並積極做相關應試之準備。 4.能發現和思考教學情境中的相關問題，並逐漸培養教師的專業態度。	1. to understand the meaning and significance of educational practice and to recognise the role of the teacher in practical teaching situations. 2. To acquire the basic professional knowledge to prepare for teaching and the ability to grow professionally. 3. Understand the requirements for teacher certification and teacher examination, and actively prepare for the relevant examinations. 4. To be able to identify and reflect on relevant issues in teaching situations, and to develop a professional attitude towards teaching.	4	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG8
2022	Undergraduate	B9500Y76	1	A	輔導原理與實務(教)	Principle and Practice of Guidance	本課程將介紹輔導的理論與實務，輔以問題本位的學習，引導學習者主動探索、發展學生輔導知能。期望學習者能領會並培養輔導者應具備的人格特質，增進心智省察，認識兒童及青少年的心理，妥善運用助人技巧，協助學生適性發展。 整體而言，本課程的教學目標如下： （一）了解輔導的理念、原則及學校輔導的運作，省思自己在學生輔導工作上應具備的知識、技能、態度與價值觀。 （二）了解助人的歷程與專業倫理，培養輔導者應具備的人格特質，鍛鍊心智省察力。 （三）學習輔導的方法，以多元的觀點認識學生，具備心理位移、個案評估與初級輔導的專業素養。 （四）透過個案研討，擴大覺察及省思，理解相關理論、	This course will introduce the theory and practice of counseling, supplemented by problem-based learning, and guide learners to explore and develop counseling. Students are expected to be able to understand the psychology of adolescent/children, make good use of help skills to promote students" development.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG3、SDG4、SDG5
2022	Undergraduate	B9500Y51	1	A	教育實習(教)	Internship	1.能了解教育實習的意義和內涵，並從實際教學情境中體認教師的職務。 2.能獲得準備擔任教師的基本專業知能，並具有專業成長之能力。 3.能理解教師檢定及教師甄試之條件，並積極做相關應試之準備。 4.能發現和思考教學情境中的相關問題，並逐漸培養教師的專業態度。	1. to understand the meaning and significance of educational practice and to recognise the role of the teacher in practical teaching situations. 2. To acquire the basic professional knowledge to prepare for teaching and the ability to grow professionally. 3. Understand the requirements for teacher certification and teacher examination, and actively prepare for the relevant examinations. 4. To be able to identify and reflect on relevant issues in teaching situations, and to develop a professional attitude towards teaching.	4	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG10
2022	Undergraduate	B9501Y56	1	A	教學原理(教1)	Teaching Strategies	一、學生能瞭解教學的基本概念。 二、學生能掌握教學的重要原則。 三、學生能實際操作教學技術與方法。 四、學生能理解實際教學情境及其困境。 五、學生能根據教學的原理，思考在教學歷程之應用。	1.students can understand the basic concepts of teaching. 2.students can get the important principles of teaching. 3.students can practice the technique and methods of teaching really. 4.students can comprehension the situation and problem of teaching. 5.students can apply the principles of teaching.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG10
2022	Undergraduate	B9500Y57	1	A	教育哲學(教)	Educational Philosophy	一、能了解教育與哲學的內涵及兩者之間的關係。 二、能認識教育哲學的基本內涵及派別。 三、能蒐集教育哲學相關議題資料及報告學習心得。 四、能常用學習所得之教育哲學內涵思考現代相關教育問題。	1. To be able to understand the connotation of education and philosophy and the relationship between the two. 2. To be able to understand the basic connotation and schools of thought of the philosophy of education. 3. To be able to collect information on issues related to the philosophy of education and to report on the learning experience. 4. To be able to think about modern education issues with the connotation of philosophy of education. The course is designed for students who are interested in the philosophy of education and who want to learn more about it.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG4
2022	Undergraduate	B9500Y57	1	A	教育哲學(教)	Educational Philosophy	一、能了解教育與哲學的內涵及兩者之間的關係。 二、能認識教育哲學的基本內涵及派別。 三、能蒐集教育哲學相關議題資料及報告學習心得。 四、能常用學習所得之教育哲學內涵思考現代相關教育問題。	1. To be able to understand the connotation of education and philosophy and the relationship between the two. 2. To be able to understand the basic connotation and schools of thought of the philosophy of education. 3. To be able to collect information on issues related to the philosophy of education and to report on the learning experience. 4. To be able to think about modern education issues with the connotation of philosophy of education.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG4
2022	Undergraduate	B9500Y51	1	B	教育實習(教)	Internship	1.提供師資培育大學實習指導教授輔導師資生重點與方式之規範。 2.提供師資生了解修習教育實習課程之輔導規劃。 3.有助於師資培育大學與教育實習機構之溝通。 4.進行有效之教育實習課程實施。	1. To provide guidelines for the focus and methods of teaching teachers and students to be instructed by intern guidance professors at the university. 2. Provide teachers and students with guidance plans for learning about educational practice courses. 3. Contribute to the communication between teacher training universities and educational practice institutions. 4. Carry out effective implementation of educational practice courses.	4	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG8

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9500Y76	1	A	輔導原理與實務(教)	Principle and Practice of Guidance	本課程將介紹輔導的理論與實務，輔以問題本位的學習，引導學習者主動探索、發展學生輔導知能。期望學習者能領會並培養輔導者應具備的人格特質，增進心智省察，認識兒童及青少年的心理，妥善運用助人技巧，協助學生適性發展。 整體而言，本課程的教學目標如下： （一）了解輔導的理念、原則及學校輔導的運作，省思自己在學生輔導工作上應具備的知識、技能、態度與價值觀。 （二）了解助人的歷程與專業倫理，培養輔導者應具備的人格特質，鍛鍊心智省察力。 （三）學習輔導的方法，以多元的觀點認識學生，具備心理位移、個案評估與初級輔導的專業素養。 （四）透過個案研討，擴大覺察及省思，理解相關理論、	This course will introduce the theory and practice of counseling, supplemented by problem-based learning, and guide learners to explore and develop counseling. Students are expected to be able to understand the psychology of adolescent/children, make good use of help skills to promote students" development.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG3、SDG4、SDG5
2022	Undergraduate	B95023XR	2	A	自然科學領域教材教法	Teaching Materials and Methods of Science and Technology	1.了解當前高中的生物科(地球科學科)教學活動與班級經營實務。 2.觀摩見習相關學科教學，分析教學活動的程序與步驟。 3.靈活運用教學方法與策略，設計教學計劃和教案。 4.透過模擬教學的體驗，驗證教學學理或理論。 5.經由自我反思和共同討論，嘗試建立自己的教學模式。	1. Understand current high school teaching activities and classroom management practices in Biology (Earth Science). 2. to observe and observe the teaching of related subjects, and to analyse the procedures and steps of teaching and learning activities. 3. Flexibly use teaching methods and strategies to design teaching plans and lesson plans. 4. To validate teaching theories and theories through simulated teaching experiences. 5. Try to establish their own teaching models through self-reflection and joint discussion.	2	Required Course	師資培育中心 Center of Teacher Education	SDG4
2022	Undergraduate	B9500Y51	1	A	教育實習(教)	Internship	1.輔導即將參與半年教育實習課程的學生，了解未來實習課程的規劃、學校教育實習的注意事宜和實習前的準備事項。 2.提供師資培育大學實習指導教授輔導師資生重點與方式之規範。 3.提供師資生了解修習教育實習課程之輔導規劃。 4.有助於師資培育大學與教育實習機構之溝通。 5.進行有效之教育實習課程實施。	1. Counselling students who will participate in the six-month educational internship programme to understand the planning of the future internship programme, the matters of attention of the school educational internship and the preparations before the internship. 2. Provide teacher training for university internship supervisors to guide teacher education students on the key points and regulations of the programme. 3. Provide teacher trainees with an understanding of the counselling and planning of the educational internship programme. 4. Facilitate communication between the University of Teacher Education and educational internship organisations. 5. To carry out effective implementation of educational internship programmes.	4	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG10
2022	Undergraduate	B95013LI	1	A	服務學習	Service learning	（一）了解服務學習的發展與概念。 （二）體驗教師服務學習的人生觀。 （三）分享服務學習的經驗與歷程。	1. To understand the meaning of service and labor in life. 2. To experience the service opinions for teacher. 3. To share the experience and process of service learning.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG10
2022	Undergraduate	B9500Y05	1	A	教育心理學(教)	Educational Psychology	1. 瞭解青少年的學習與發展。 2. 瞭解學習、認知、動機、行為等重要理論。 3. 瞭解使用不同的教學策略增進學習效果。	1. to understand adolescent learning and development. 2. to understand the important theories of learning, cognition, motivation and behaviour. 3. understand the use of different teaching strategies to enhance learning.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG3、SDG4、SDG5、SDG10
2022	Undergraduate	B9500Y10	1	A	親職教育(教)	Parenting Education	Course rationale: The traditional family structure is facing severe challenges in a rapidly changing society. Parenthood brings with it many responsibilities, and the way children are raised has evolved with rapid social change. The challenges include the changing roles of mothers and fathers; balancing work and family; gay parenting; teenage parents; sole parents and divorce; step-families and the reasons behind a decline in the birth rate in many countries. Students who are teachers to be as well as	Course rationale: The traditional family structure is facing severe challenges in a rapidly changing society. Parenthood brings with it many responsibilities, and the way children are raised has evolved with rapid social change. The challenges include the changing roles of mothers and fathers; balancing work and family; gay parenting; teenage parents; sole parents and divorce; step-families and the reasons behind a decline in the birth rate in many countries. Students who are teachers to be as well as	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG16
2022	Undergraduate	B95013ZJ	1	A	海洋教育課程規劃與實地踏查	Curriculum Design and On-the-spot Investigation of Marine Education	一、能了解不同條件下海洋教育課程規劃與實踐的差異。 二、能透過體驗學習領會海洋教育課程實踐的不同策略。 三、能在實際情境中理解培養學生海洋素養的教學方法。 四、能從實地踏查過程蒐集相關資訊規劃海洋教育課程。	1. To be able to understand the differences in the planning and practice of marine education programmes under different conditions. 2. To be able to appreciate the different strategies of marine education curriculum practice through experiential learning. 3. Be able to understand the teaching methods for cultivating students' marine literacy in real-life situations. 4. To be able to collect relevant information from fieldwork to plan marine education programmes.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG11、SDG12、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9501YA9	1	A	國音及說話(教1)	Chinese Phonetics and Speaking	1.了解國音學的意義與原理 2.認識國音的聲、韻、調和拼音,及其教學方式 3.能了解說話術,並適當地應用於教學之中	1. To understand the meaning and principles of Guoyin Studies. 2. to understand the sounds, rhymes, tones and phonetics of the Chinese phonetics and their teaching methods. 3. understand the art of speaking and apply it appropriately in teaching.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG3、SDG4
2022	Undergraduate	B95010E1	1	A	教師專業發展	Teacher Professional Development	本課程擬透過營造互為主體真誠對話的關係，探討他山之石優質轉型的案例、系統思考真實困境議題，與生態、社會和大我連結，形成最佳因應策略，培養「透過教育實踐與省思，以發展溝通、團隊合作、問題解決及持續專業成長的意願與能力」之專業素養。具體的學習目標如下： （一）透過批判性反思與對話，形成專注投入、遵循倫理、追求卓越的積極信念 （二）培養創新價值、調和緊張和困境，及承擔責任的轉型能力 （三）開放思維、心靈與意志，系統思考，啟動內在深層的思維轉型 （四）透過以專案為基礎的學習，整合能力發揮影響力	This course intends to create a relationship of sincere dialogue with each other , explore cases of high-quality transformation, systematically think about real dilemma issues, connect with ecology, society and the self, form the best response strategy, and cultivate "through educational practice and Reflect to develop the professionalism of communication, teamwork, problem solving and the willingness and ability of continuous professional growth".	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4
2022	Undergraduate	B95014LG	1	A	自然領域探究與實作	Scientific Inquiry and Practices	1.瞭解科學探究與實作的概念與意義 2.瞭解科學探究與實作的理論背景與架構 3.瞭解如何將科學探究與實作的理念應用於教學中	1. understand the concepts and meanings of scientific enquiry and fieldwork 2. to understand the theoretical background and framework of scientific enquiry and practice. 3. Understand how to apply the concepts of scientific enquiry and fieldwork in teaching and learning.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4
2022	Undergraduate	B9501YG2	1	A	兒童英語(教1)	English for Young Children	一.能了解兒童英語的教學方法 二.能設計兒童英語相關教材 三.能運用各種媒體與教材,進行兒童英語教學	1.understanding teaching methods for children English 2.designing English lesson plans for children 3.teaching children English by multiple materials and technologies	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG17
2022	Undergraduate	B95013LH	1	A	職業教育訓練與生涯規劃	Vocational education training and career development	依教育部106年6月1日臺教師(二)字第1060076930號函規定，105學年度起師培生配合技職法修正，「職業教育與訓練」、「生涯規劃」相關課程，列為師資職前教育課程必修學分。108學年度將該2門課程合併為職業教育訓練與生涯規畫(1學分)。透過課程介紹讓師資生了解職業教育訓練以及生涯規劃在教育領域的應用，期師培生具備教育學生多元升學的能力與觀念。	According to the Ministry of Education's letter No. 1060076930 dated June 1, 106, "Vocational Education and Training" and "Career Planning" have been included as mandatory credits in the pre-service teacher education curriculum for teacher educators since the 105th school year in accordance with the revision of the Technical Vocational Law; in the 108th school year, the courses will be merged into the Vocational Education and Training and Career Planning course (1 credit). Through the introduction of the courses, teacher trainees can understand the application of vocational education training and career planning in the field of education, so as to equip them with the ability and concepts of educating students for diversified education.	1	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG8、SDG10
2022	Undergraduate	B9501Y54	1	A	教育社會學(教)	Socialogy of Education	一、學生能了解教育社會學的基本概念與理論。 二、學生能理解教育與社會的相互關係,促進理解教育發展的社會脈絡。 三、學生能瞭解教育中的社會影響因素，並運用各種社會因素，以提升教育效能。	1.Students can understand the basic concepts and theory of educational sociology. 2.Students can comprehensive the basic interrelationship between society and education so that they can control the social context of educational development. 3.Students can understand influence factors in society and use them to promote the educational effectiveness.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG10、SDG16
2022	Undergraduate	B9502Y0B	2	A	特殊教育導論(教)	Introduction to Special Education	本課程將介紹特殊教育的意義、實施現況與發展、各類特殊教育需求學生的定義、身心特質與教育需求、特殊教育相關法規與議題，以及特殊教育工作者的服務範圍、內涵與專業合作，相關支援與資源等。課程的目的除提升特殊教育知能外，亦期望學習者能經由了解特殊學生及其家人的生命歷程，重視其個別需求與成長，並適時為特殊學生的權益發聲。 期望學習者完成本課程的學習後，具備以下知能： 1.了解特殊教育的意義、實施現況與發展趨勢。 2.認識各類特殊教育需求學生的定義、身心特質與教育需求。 3.了解融合教育的理念與實務，並知悉尋求支援與資源的管道。 4.學習教導特殊教育需求學生的基本原則與策略。 5.建立尊重接納與正向支持的態度，提供親師生適切的協	1. Understand the significance of special education, present implementation and development trends. 2. Understand the definition of special education needs, physical and mental characteristics of students with special education needs. 3. Understand the concept and practice of inclusive education and know the relative support and resources. 4. Learn the basic principles and strategies of teaching students with special education needs. 5. To establish respect for acceptance and positive support of the attitude, to provide parents, teachers and students appropriate assistance.	3	Educational Programs	師資培育中心 Center of Teacher Education	SDG3、SDG4、SDG10
2022	Undergraduate	B9502Y3K	2	A	國民小學社會教材教法	Teaching Methods and Materials of Social Science	一、學生能了解並分析社會學習領域教材。 二、學生能具備運用社會學習領域教法的能力。 三、學生能設計社會學習領域教材，選擇適當的教法，進行社會學習領域教學。	1. Students can understand and analyze the teaching materials in social study. 2. students can gain the competence of applying teaching methods in social study. 3. Students can design the lesson, select the appropriate methods, and conduct teaching in social study.	2	Educational Programs	師資培育中心 Center of Teacher Education	SDG4、SDG5、SDG10、SDG11

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B560129S	1	A	工程圖學與繪圖（二）	Engineering Graphics & Drawing(Ⅱ)	教導學生建立AutoCAD基礎觀念、指令運用進階功能操作，讓學生在工程領域方面有基本繪圖技巧，及海洋工程領域相關工程圖之識圖。	Students are taught to establish the basic concepts of AutoCAD, the use of advanced functions, so that students can have basic drawing skills in the field of engineering, and the knowledge of engineering drawings in the field of marine engineering.	2	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B56012TZ	1	A	程式設計與資料處理	Computer Programming & Data Processing	本課介紹程Matlab程式語言的基本概念，包括向量、矩陣、字串、迴圈、視覺化繪圖及資料匯入匯出等。本課程結束時，學生將能夠撰寫Matlab程式求解數值問題，並使用圖形表徵評估計算結果。修讀本課程無須預先學過其他程式語言的經驗。	The course introduces the fundamental concepts of MATLAB programming language, including vectors/matrices, string, loops, plotting and visualization of data and importing/exporting data. By the end of the course the student will be able to translate mathematical method to Matlab code and evaluate the computational results using graphical representations.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B5622086	2	A	工程數學	Engineering Mathematics	工程數學是工程師解決工程問題的工具。課程進度安排期能讓學生了解工程問題與所對應的數學模型，建立正確觀念，進一步培養同學具有數學分析及簡化與求解工程問題能力。	Engineering Mathematics is a tool for engineers to solve engineering problems. The programme is designed to enable students to understand engineering problems and the corresponding mathematical models, to establish correct concepts, and to further develop their ability to mathematically analyse, simplify and solve engineering problems.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B56044GA	3	A	水下量測原理與繪圖	Hydrographic Surveying and Introduction to Chart Production	本課程旨在介紹水文測繪和海圖生產概論的相關技術，參照國際水文組織(International Hydrographic Organization)的規範與水文測量技術進而達到並建立精確製作海圖之量能。本該課程以"水文測繪和海圖生產概論"為主題，涵蓋課程方法/目標與目的/評估，圍繞於了解調查的基礎知識，進行基本調查而構建達到所需的準確性，並生成詳細說明建置過程報告。本課程探討研究方法在學術與實務上的重要性，修習本課程的同學，能夠獲得從事研究工作之基本學養之外，並能從中學習實測與撰寫製圖技術報告之技巧，在學術上可以撰寫學術論文實務上可以提交技術分析報告，以求研究方法在理論與實測上的實現，海圖測繪成果將是本課程的實際評量之依據。	The aim of this course is to introduce the techniques of Hydrographic Mapping and Introduction to Chart Production to achieve and establish the ability to produce accurate nautical charts with reference to International Hydrographic Organisation (IHO) specifications and hydrographic surveying techniques. The course is based on the theme "Introduction to Hydrographic Mapping and Chart Production" and covers the course methodology/objectives and aims/assessments, which revolve around understanding the basics of surveys, carrying out basic surveys to build the required accuracy and generating a report detailing the construction process. This course explores the importance of research methodology in both academic and practical terms. Students who take this course will be able to acquire the basic qualifications for engaging in research work, as well as learn the skills of conducting surveys and writing technical reports on mapping, and will be able to write academic papers and submit technical analysis reports in order to realise the theoretical and empirical implementation of research methodology. The results of the chart mapping will be the basis for the actual assessment of this course.	3	Elective Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B56034JU	3	A	海洋模式應用	Application of Ocean Simulation Model	本課程教授海洋與海岸工程規劃設計所需使用的數值模式，應用模式計算波浪從外海傳遞到海岸的變形，瞭解淺化、折射、繞射、碎波、底床摩擦、波與波非線性交互作用、波流交互作用以及波浪與結構物交互作用等過程。學習應用模式瞭解海岸水動力環境，並評估海岸工程興建後改變之特性。	Numerical models for planning and design in ocean and coastal engineering are introduced in the course. The goal of the course is to apply the models to study wave shoaling, refraction, diffraction, breaking, bottom dissipation, wave and wave interactions, wave-current interactions and wave-structure interactions is a goal of the course. Students are able to understand coastal hydrodynamics based on the models and evaluate effects of coastal constructions on marine environments.	3	Elective Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG13、SDG14
2022	Undergraduate	B560236P	2	A	海洋物理	Physical Oceanography	預期修課學生將可了解基本的瞭解海洋物理現象與基本物理海洋的描述方程式，進而具備海洋環境與科技應用之基本概念。同時，本課程鼓勵學生閱讀專業英文教科書與增進自我查找與深度學習之能力。	It is expected that students will gain a basic understanding of the physical phenomena of the oceans and the equations describing the basic physics of the oceans, which will lead to basic concepts of the marine environment and its scientific and technological applications. Students will be encouraged to read professional English textbooks and enhance their ability to search for themselves and learn in depth.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B5602690	2	A	材料力學	Mechanics of Material	材料力學是工程學門學生所必須學習的基本學科。結構物之強度及其物理特性是學習點，內容包含對於應力與應變、變形與位移、彈性與非彈性、應變能及載重能力等之基本觀念。這些觀念是結構分析與設計之基礎。本課程之主要目標在於學習結構桿件承受張拉力、壓力、扭力與彎矩實之分析與設計，以及了解如前所述之結構行為。其他對於應力與應變之轉換、載重組合、應力集中、結構物變形以及柱穩定等亦將予以介紹。	Mechanics of materials is a fundamental course for students in engineering division. The course includes the strength and physical performance of structures, fundamental concepts, stresses and strains, deformations and displacements, elasticity and inelasticity, strain energy and load-carrying capacity. The concepts underlie the design and analysis of a huge variety of mechanical and structural systems. The main topic of this course is to analysis and design structural members subjected to tension, compression, torsion and bending. Transformations of stress and strain, combined loadings, stress concentrations, deflections of structures and stability of columns are introduced in the course.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B56033I9	3	A	海氣象觀測分析與應用	Ocean Meteorological Observation Analysis and Application	海氣象資料之掌握為從事海岸海洋工程研究或從事實務海岸及海洋工程規劃與設計之需，舉凡港灣工程、海洋土木工程、海岸保護、離岸風電、海洋能源及海洋深層海水產業之規劃、設計及開發等，首先必須有效掌握風、波浪、潮汐、潮流及近岸流等海域營力條件。本課程教學目標主要介紹海洋環境特性，如進行風、波浪、潮汐、潮流及近岸流之觀測規劃，觀測資料處理分析，觀測成果如何應用於實務規劃及設計工作。讓修課學生認識海氣象，瞭解其觀測原理方法及應用，並具基本觀測規劃能力。	The mastery of marine meteorological data is necessary for coastal and ocean engineering research or practical coastal and ocean engineering planning and design, such as harbour engineering, marine civil engineering, coastal protection, offshore wind power, ocean energy and ocean deep sea water industry planning, design and development, etc., the first thing that must be effectively grasped the wind, waves, tides, tidal currents and offshore currents, such as the operating conditions of the sea area. The teaching objectives of this course are to introduce the characteristics of the marine environment, such as wind, wave, tidal, current and near-shore current observation and planning, processing and analysing the observation data, and how the results of the observation can be applied to practical planning and design work. Students will be able to understand the principles, methods and applications of marine meteorology, and have basic observation and planning skills.	3	Elective Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG14
2022	Undergraduate	B56012TY	1	A	海洋工程科技導論	Introduction to Ocean Engineering & Technology	本課程之目的乃針對海洋工程科技所涵蓋之範圍，作一深入淺出之探討，提供大一新生瞭解海洋工程科技之內涵與未來之研究發展方向及出路，希冀透過專題介紹與演講方式培養同學具備下列各項能力： 1.瞭解海洋工程科技所涵蓋的範圍及相關基礎知識。 2.認識當代議題，瞭解工程技術對環境、生態及社會影響的重要性。 3.體認工程師對社會所應負的責任。	The purpose of this course is to provide freshmen with an in-depth exploration of the scope of marine engineering science and technology, to provide freshmen with an understanding of the content of marine engineering science and technology and the future direction of research and development and the way forward, with the hope that through the introduction of the topic and lectures to cultivate the students to have the following abilities: 1. Understand the scope of marine engineering technology and related basic knowledge. 2. Understand contemporary issues and the importance of the impact of engineering technology on the environment, ecology and society. 3. Recognise the responsibilities of engineers to society.	2	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG13、SDG14
2022	Undergraduate	B560236P	2	A	海洋物理	Physical Oceanography	使學生了解基本的海洋物理現象、定義與關聯，並介紹台灣周圍海域環境背景與現況，藉此培養學生對海氣象科學與海洋水動力模擬之興趣，為爾後海洋科學進階課程奠定基礎學能。本課程也鼓勵學生閱讀專業英文教科書與增進自我查找與深度學習之能力。	This course is designed to provide students with an understanding of basic ocean physical phenomena, definitions, and relationships, as well as an introduction to the environmental background and current conditions of Taiwan's surrounding waters, in order to cultivate students' interest in the science of marine meteorology and ocean hydrodynamic simulation, and to lay the foundation for advanced courses in marine science. This course also encourages students to read professional English textbooks and to enhance their ability for self-research and in-depth learning.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B5611M97	1	A	微積分	Calculus	期使學生能充分掌握微積分這項數學工具，學習分析問題與解決問題的能力。培養學生更高深的數學的興趣與學習能力。	The objective of this course is to teach students to fully grasp the basic tool of mathematics, to learn the ability of analyzing and solving problems, and to cultivate students the ability of learning advanced mathematics.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG5
2022	Undergraduate	B56023GG	2	A	波浪力學	Wave Mechanics	本課程介紹微小振幅波理論，了解使用數學方程式來解釋波浪水動力現象。介紹波浪淺化特性之物理特性，進而應用於海岸與海洋工程之規劃與設計。	The course introduces fundamental ocean wave theories and nearshore wave dynamics, and explain physical characteristics with linear differential equations. With the course completed, students could apply for the plan and design of coastal and ocean engineering.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG13、SDG14
2022	Undergraduate	B56033GJ	3	A	海洋測量	Marine Surveying	海洋蘊藏豐富的資源，隨著海洋探勘科技的發展，海洋資源利用範疇也越來越廣泛。海洋經濟的發展，海洋資源的開發和利用，已成為世界各國關注的焦點。海洋資源開發管理與發展，海洋測量學是以海洋及陸地水域為研究對象，研究港口、碼頭、航道及水下地形測量的理論及方法的測量問題，海洋測量是進行一切海洋活動的基礎。本課程設計首先建立學生測量學的基本知識，再進入海洋測量學的學習範疇，使修課學生具備海洋測量的基本技能。	The ocean is rich in resources, with the development of marine exploration science and technology, the scope of the use of marine resources is also more and more extensive. The development of the marine economy, the development and use of marine resources has become the focus of attention of countries around the world. Marine resources development and management and development, marine surveying is the ocean and land waters as the object of study, the study of ports, harbours, wharves, waterways and underwater topographic surveying theory and method of surveying problems, marine surveying is the basis for all marine activities. This programme is designed to build up students' basic knowledge of surveying first, and then to enter the field of marine surveying, so that the students will be equipped with the basic skills of marine surveying.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B56044GA	4	A	水下量測原理與繪圖	Hydrographic Surveying and Introduction to Chart Production	本課程旨在介紹水文測繪和海圖生產概論的相關技術，參照國際水文組織(International Hydrographic Organization)的規範與水文測量技術進而達到並建立精確製作海圖之量能。本該課程以“水文測繪和海圖生產概論”為主題，涵蓋課程方法/目標與目的/評估，圍繞於了解調查的基礎知識，進行基本調查而構建達到所需的準確性，並生成詳細說明建置過程報告。本課程探討研究方法在學術與實務上的重要性，修習本課程的同學，能夠獲得從事研究工作之基本學養之外，並能從中學習實測與撰寫製圖技術報告之技巧，在學術上可以撰寫學術論文實務上可以提交技術分析報告，以求研究方法在理論與實測上的實現，海圖測繪成果將是本課程的實際評量之依據。	This course is designed to introduce the techniques of Hydrographic Mapping and Introduction to Chart Production, and to achieve and establish the ability to produce accurate nautical charts with reference to the International Hydrographic Organisation's specifications and hydrographic surveying techniques. The course is based on the theme "Introduction to Hydrographic Mapping and Chart Production" and covers the course methodology/objectives and aims/assessments, which revolve around understanding the basics of surveys, carrying out basic surveys to build the required accuracy and generating a report detailing the construction process. This course explores the importance of research methodology in both academic and practical terms. Students who take this course will be able to acquire the basic qualifications for engaging in research work, as well as learn the skills of conducting surveys and writing technical reports on mapping, and will be able to write academic papers and submit technical analysis reports in order to realise the theoretical and empirical implementation of research methodology. The results of the chart mapping will be the basis for the actual assessment of this course.	3	Elective Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B5612086	2	A	工程數學	Engineering Mathematics	教導學生海洋工程所需的基礎工程數學知識	To teach the basic mathematics for ocean engineering	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B56033GI	3	A	環境大地工程	Environmental Geotechniques	環境大地工程是一門探討大地工程基本原理與技術，和研究不同環境下人類生存環境的安全與衛生的科學。首先探討大地工程之演變，如何由單純之土壤工程演變至目前之環境大地工程。接著討論環境大地工程業務範圍和環境大地工程師必備之知識與技術，如環境大地力學與土壤特性、廢料與土壤之交互作用、環境工址特性與調查、環境與土壤力學行為、基礎設計、環境地工災害與防治等，有完整深入了解；最後論及與環境大地工程相關之課題。使同學能運用環境大地工程之原理應用於實際工程環境風險評估與調適，及應用於海域大地工程，減少工程災害之發生。	Environmental geotechnical engineering is a science that explores the basic principles and techniques of geotechnical engineering and studies the safety and health of the human living environment under different environments. Firstly, it discusses the evolution of geotechnical engineering from simple soil engineering to the current environmental geotechnical engineering. It then discusses the scope of environmental geotechnical engineering and the necessary knowledge and techniques for environmental geotechnical engineers, such as environmental geomechanics and soil properties, waste-soil interactions, environmental site characterisation and investigations, environmental and soil mechanical behaviour, infrastructure design, environmental geotechnical disaster prevention and control, etc., to gain a complete and in-depth understanding; and finally discusses the topics related to environmental geotechnical engineering. Students will be able to apply the principles of environmental geotechnical engineering to practical engineering environmental risk assessment and adaptation, as well as to marine geotechnical engineering to reduce the occurrence of engineering disasters.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4
2022	Undergraduate	B56023GJ	2	A	海洋測量	Marine Surveying	海洋蘊藏豐富的資源，隨著海洋探勘科技的發展，海洋資源利用範疇也越來越廣泛。海洋經濟的發展，海洋資源的開發和利用，已成為世界各國關注的焦點。海洋資源開發管理與發展，海洋測量學是以海洋及陸地水域為研究對象，研究港口、碼頭、航道及水下地形測量的理論及方法的測量問題，海洋測量是進行一切海洋活動的基礎。本課程設計首先建立學生測量學的基本知識，再進入海洋測量學的學習範疇，使修課學生具備海洋測量的基本技能。	The ocean is rich in resources, with the development of marine exploration science and technology, the scope of the use of marine resources is also more and more extensive. The development of the marine economy, the development and use of marine resources has become the focus of attention of countries around the world. Marine resources development and management and development, marine surveying is the ocean and land waters as the object of study, the study of ports, harbours, wharves, waterways and underwater topographic surveying theory and method of surveying problems, marine surveying is the basis for all marine activities. This programme is designed to build up students' basic knowledge of surveying first, and then to enter the field of marine surveying, so that the students will be equipped with the basic skills of marine surveying.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B56023LW	2	A	海洋工程科技講座	Lectures of Ocean Engineering & Technology	課程之目的乃針對海洋工程科技所涵蓋之範圍，邀請產學研界專家學者專題介紹與演講，希冀透過專題介紹與實務工程案例說明，培養同學具備下列各項能力： 1.瞭解海洋工程科技所涵蓋的範圍及相關產學實務工程案例。 2.認識當代工程實務議題，瞭解工程技術對環境、生態及社會影響的重要性。 3.體認工程師對社會所應負的責任。	The purpose of the course is to invite experts and scholars from the industry, academia and research sector to give presentations and lectures on the scope of marine engineering technology, with the hope that through the presentations and practical engineering case studies, students will be able to develop the following abilities: 1. Understand the scope of marine engineering technology and the related practical engineering cases in industry and academia. 2. Understand contemporary engineering issues and the importance of the impact of engineering technologies on the environment, ecology and society. 3. To recognise the responsibilities of engineers to society.	1	Elective Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG13、SDG14
2022	Undergraduate	B56033GG	3	A	波浪力學	Wave Mechanics	本課程介紹微小振幅波理論，了解使用數學方程式來解釋波浪水動力現象。介紹波浪淺化特性之物理特性，進而應用於海岸與海洋工程之規劃與設計。	The course introduces fundamental ocean wave theories and nearshore wave dynamics, and explain physical characteristics with linear differential equations. With the course completed, students could apply for the plan and design of coastal and ocean engineering.	3	Required Course	海洋工程科技學士學位學程 Bachelor Degree Program in Ocean Engineering and Technology	SDG4、SDG13、SDG14
2022	Master Program	M9C0227C	2	A	沿海地區與島嶼文化專題	Topics in the Cultures of Coastal Areas and Islands	古今中外海洋文化的孕育生成皆與近海、環海的地理環境密不可分。沿海地區與島嶼是海洋文化生成發展的基地。長久以來，人們濱海居息、依海營生，從漁撈到海貿，從木舟到巨輪，從近海活動到遠渡重洋，從往來鄰近海域到全球航線連結，沿海地區和島嶼一直是海民出航往返的核心所在，他們在此傳承各種出海漁撈、航船、海貿的技藝、知識、傳說和習俗，也匯聚了對海洋的深刻體驗、意識與信念；沿海地區和島嶼則是創造、體現海洋文化的重要載體，當地的欣榮、凋零與轉型，反映了海洋文化的發展與變遷、起伏與韌性。本課程將引介「區域研究」方法論並從海洋意識、海洋空間、跨海移動、依海營生、人海互動等面向探討沿海和島嶼地區獨特的生活文化及其所反映豐富多樣的海洋文化內涵。期能達到下列教學目標： 1. 能了解沿海地區與島嶼的自然與人文地理特性。 2. 能認識「區域研究」方法論對海洋文化研究的價值。 3. 能從不同個案研究理解沿海地區與島嶼的地理條件與海洋文化的異同。 4. 能關注沿海地區與島嶼生態保育以及當地文化傳承與轉型問題。 5. 能借鏡前人的理論概念與研究成果，針對特定的沿海地區與島嶼文化進行個案研究並提出個人見解。	The birth of marine culture, both ancient and modern, is inseparable from the geographical environment of the sea and its surroundings. Coastal areas and islands are the bases for the creation and development of marine culture. For a long time, people have lived and lived by the sea, making a living by the sea. From fishery to marine trade, from wooden boats to giant ships, from offshore activities to ocean voyages, and from travelling to and from neighbouring waters to global shipping routes, coastal areas and islands have always been the core of seafarers' voyages and journeys, and they have inherited various techniques, knowledge, legends and customs of fishing, shipping and marine trade, and also gathered profound experiences, awareness and beliefs about the sea; Coastal areas and islands are important carriers of the creation and manifestation of maritime culture, and their prosperity, decline and transformation reflect the development and change, ups and downs, and resilience of maritime culture. In this course, we will introduce the methodology of "regional studies" and explore the unique living culture of coastal and island areas and the rich and diversified contents of marine culture from the perspectives of marine consciousness, marine space, cross-sea mobility, living by the sea, and human-sea interaction. The following teaching objectives are expected to be achieved: 1. to understand the natural and human geographic characteristics of coastal areas and islands. 2. to understand "regional studies". 2. to recognise the value of the methodology of "area studies" to the study of marine culture. 3. to understand the value of different case studies in the study of marine culture. 3. to be able to understand the similarities and differences between the geographic conditions of coastal areas and	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG11
2022	Master Program	M9C010J8	1	A	東亞海洋移民專題	Editorial on the History of Maritime Immigration in East Asia	臺灣位於東亞地區之一島嶼，自古與外界互動頻繁，且自17世紀大航海時代來臨之後，移民時所產生的多元文化，更是創造出極大的影響與衝擊。在此前提下，臺灣移民史的研究在東亞地區更顯出其重要性。因此，透過移民史的教學，讓學生認識、瞭解昔日居住在此的臺灣人民，與東亞其他地區；如中國大陸、日本、琉球、東南亞地區互動關係。再者；從臺灣人民向東亞各地移民發展的目的、動態，以及與當地各種互動的情況等，所呈現出完整的歷史面貌，更是必須要瞭解的。此為是項課程教學之計畫及目標。	Taiwan is located on one of the islands in East Asia, and has had frequent interactions with the outside world since ancient times. Since the advent of the Great Seafaring Age in the 17th century, the diverse cultures generated by immigrants have had a great impact and influence. Under this premise, the study of Taiwan's immigration history has become even more important in the East Asian region. Therefore, through the teaching of the history of immigration, students will be able to know and understand the interaction between the people of Taiwan, who lived here in the past, and other regions in East Asia, such as Mainland China, Japan, the Ryukyus, and Southeast Asia. In addition, it is important to understand the purpose and dynamics of the migration of the Taiwanese people to other parts of East Asia, as well as their interactions with the local communities, in order to present a complete historical picture. This is the plan and objective of this course.	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG1、SDG11、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M9C020JA	2	A	臺灣海洋文學專題	Special Topics on Sea Literature of Taiwan	本課程以專題方式探討近代到當代臺灣海洋文學作品，俾使同學能掌握臺灣海洋文學的演變發展，並了解作品中海洋意象的表達與作者文學技巧與設辭之應用。	This course explores modern to contemporary Taiwanese marine literature in a thematic way, so that students can grasp the evolution of marine literature in Taiwan and understand the expression of marine imagery in the works, as well as the use of authors' literary skills and diction.	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG4、SDG6、SDG12、SDG13、SDG14
2022	Master Program	M9C02357	2	A	海洋考古與文明專題	Seminar on Maritime Archaeology and Civilization	1、近來政府開始重視水下文化資產，並草擬水下文化資產保存法，本課程即是要讓同學瞭解世界各國以至臺灣其海洋考古發展歷程與成果，並利用海洋考古成果說明該地區之海洋文明。 2、做為研究海洋文化的眾多分支學科之一，海洋考古涉及古代人類創造海洋文化的物質文化遺存，透過它可以讓我們多一個管道來瞭解海洋文明發展歷程。 3、海洋考古成果可重新建構、驗證、修正、以及豐富海洋歷史文化本身，因此在海洋教育逐漸被政府當局重視之際，希冀透過本課程，帶領同學以海洋考古的角度以及對於海洋文明的進一步瞭解，來強化自己的海洋人文知識與海洋史觀。 4、從知海到親海到利用海洋，這是身為海島子民必須要認真面對的重要課題，本課程希冀能誘發同學對海洋的關注 5、藉創意實作，除了培養同學互助合作之精神，希冀引發同學對海洋考古產生興趣，成為臺灣海洋考古隊的生力軍。	1.Recently, the government has begun to pay attention to underwater cultural assets and drafted a law on the preservation of underwater cultural assets. This course is intended to enable students to understand the development process and achievements of marine archaeology in various countries around the world, as well as in Taiwan, and to make use of the achievements of marine archaeology to illustrate the marine civilisation of the region. 2.As one of the many subdisciplines in the study of marine culture, marine archaeology involves the material and cultural heritage of ancient mankind's creation of marine culture, through which we can have an additional channel to understand the development of marine civilisation. 3.The results of marine archaeology can be reconstructed, verified, revised, and enriched by marine history and culture itself. Therefore, at a time when marine education is gradually being valued by the government, we hope that this course will lead students to strengthen their knowledge of marine humanities and the concept of marine history from the perspective of marine archaeology and a better understanding of marine civilisation. 4.From knowing the sea to being close to the sea to making use of the sea, this is an important issue that the people of the islands must seriously face, and this course hopes to induce students to pay attention to the sea. 5.Through creative practical work, in addition to cultivating the spirit of mutual assistance and cooperation, we hope to stimulate students' interest in marine archaeology and to become a member of Taiwan's marine archaeological team.	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG8
2022	Master Program	M9C02OC1	2	A	東南亞華人社會專題	History of overseas Chinese in Southeast	我國政府最早於1990年代提出南向政策，發展至今皆偏重於外交與經濟方面的考量，不過文化作為了解國際關係變數的觀察與考量因素，而東南亞作為我國僑民最大的海外移居地，有必要進一步了解其文化與社會背景。因此本課程期望以在東南亞的華人為主體，透過華人移民史來認識東南亞社會。	Our government first proposed the Southern Policy in the 1990s. However, it is still relatively biased toward foreign and economic aspects. However, culture is an observation and consideration factor for understanding the variables of international relations. Moreover, Southeast Asia is the largest overseas migration place of our country"s people, so it is necessary to further understand its cultural and social background. Therefore, this course is expected to take the Chinese in Southeast Asia as the main body, and to understand the culture and society of Southeast Asia through the history of Chinese immigration.	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG10、SDG17
2022	Master Program	M9C020PF	2	A	近代中國港市發展專題	Topics on the Development of Chinese Harbor City in the 19th Century	中國大陸不僅是一個大陸國家，也是一個海洋國家。自十五世紀西歐國家開啟大航海時代與殖民運動，也帶動亞洲各國的海洋冒險。本課程透過關注近代中國福建沿海的港口城市（福州、泉州、漳州、廈門）等發展，以了解中國東南沿海地區的海洋發展歷程。	Mainland China is not only a continental country, but also a maritime country. The Great Age of Sail and the colonial movement that began in Western Europe in the fifteenth century also led to maritime adventures in Asian countries. In this course, we will focus on the development of the coastal cities of Fujian (Fuzhou, Quanzhou, Zhangzhou, Xiamen) in modern China to understand the maritime development of the southeastern coastal region of China.	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG17
2022	Master Program	M9C010BV	1	A	東亞航貿史專題	Editorial on the History of Navigation and Trade in East Asia	廣義的東亞是涵蓋東北亞、中國大陸、台灣，以及東南亞的地理區域，因海洋通路的連結，這些地區透過商業貿易活動自古以來就有密切的互動關係。因此本課程希望透過近代東亞各國的船舶技術、經濟貿易、文化交流等，認識海洋的東亞所呈現的動態樣貌。	Broadly speaking, East Asia is a geographic area covering Northeast Asia, Mainland China, Taiwan, and Southeast Asia. These regions have had close interactions since ancient times through commercial and trade activities, due to the connectivity of the sea routes. Therefore, this course hopes to understand the dynamic appearance of maritime East Asia through the ship technology, economic trade, and cultural exchanges of modern East Asian countries.	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG17

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2022	Master Program	M9C0227C	2	A	沿海地區與島嶼文化專題	Topics in the Cultures of Coastal Areas and Islands	古今中外海洋文化的孕育生成皆與近海、環海的地理環境密不可分。沿海地區與島嶼是海洋文化生成發展的基地。長久以來，人們濱海居息、依海營生，從漁撈到海貿，從木舟到巨輪，從近海活動到遠渡重洋，從往來鄰近海域到全球航線連結，沿海地區和島嶼一直是海民出航往返的核心所在，他們在此傳承各種出海漁撈、航船、海貿的技藝、知識、傳說和習俗，也匯聚了對海洋的深刻體驗、意識與信念；沿海地區和島嶼則是創造、體現海洋文化的重要載體，當地的欣榮、凋零與轉型，反映了海洋文化的發展與變遷、起伏與韌性。本課程將引介「區域研究」方法論並從海洋意識、海洋空間、跨海移動、依海營生、人海互動等面向探討沿海和島嶼地區獨特的生活文化及其所反映豐富多樣的海洋文化內涵。期能達到下列教學目標： 1. 能了解沿海地區與島嶼的自然與人文地理特性。 2. 能認識「區域研究」方法論對海洋文化研究的價值。 3. 能從不同個案研究理解沿海地區與島嶼的地理條件與海洋文化的異同。 4. 能關注沿海地區與島嶼生態保育以及當地文化傳承與轉型問題。 5. 能借鏡前人的理論概念與研究成果，針對特定的沿海地區與島嶼文化進行個案研究並提出個人見解。	The birth of marine culture, both ancient and modern, is inseparable from the geographical environment of the sea and its surroundings. Coastal areas and islands are the bases for the creation and development of marine culture. For a long time, people have lived and lived by the sea, making a living by the sea. From fishery to marine trade, from wooden boats to giant ships, from offshore activities to ocean voyages, and from travelling to and from neighbouring waters to global shipping routes, coastal areas and islands have always been the core of seafarers' voyages and journeys, and they have inherited various techniques, knowledge, legends and customs of fishing, shipping and marine trade, and also gathered profound experiences, awareness and beliefs about the sea; Coastal areas and islands are important carriers of the creation and manifestation of maritime culture, and their prosperity, decline and transformation reflect the development and change, ups and downs, and resilience of maritime culture. In this course, we will introduce the methodology of "regional studies" and explore the unique living culture of coastal and island areas and the rich and diversified contents of marine culture from the perspectives of marine consciousness, marine space, cross-sea mobility, living by the sea, and human-sea interaction. The following teaching objectives are expected to be achieved: 1. to understand the natural and human geographic characteristics of coastal areas and islands. 2. to understand "regional studies". 2. to recognise the value of the methodology of "area studies" to the study of marine culture. 3. to understand the value of different case studies in the study of marine culture. 3. to be able to understand the similarities and differences between the geographic conditions of coastal areas and	2	Elective Course	海洋文化研究所碩士班 Institute of Marine Culture	SDG11
2022	Undergraduate	B9E03H54	3	A	商事法	Commercial Law	讓學生瞭解商業登記法、公司法的基本概念、重要制度以及實務見解，以期日後得以維護自身權益。	Let students understand the basic concepts, important systems and court decisions of Business Registration Act and Company Law, with a view to protecting their rights in the future.	2	Elective Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG16
2022	Undergraduate	B9E01U43	1	A	應用統計學	Applied Statistics	本課程主要在於培養學生統計學之基本概念，以奠定學生對數據資料的歸納分析、綜合與判斷之能力；並期學生熟悉統計學常用之電腦套裝軟體，以能將各項技能靈活應用於後續相關課程及實務上。	This programme aims to develop students' basic concepts of statistics and their ability to generalise, analyse, synthesise and judge data. Students are expected to be familiar with computer software packages commonly used in statistics, so as to be able to apply their skills flexibly in subsequent related courses and practices.	2	Elective Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9E012G6	1	A	海洋文化概論	Introduction in Oceanic Cultures	所謂「海洋文化」即指與「海洋」此一地表空間有關之所有文化的現象與內涵，它至少包含了與「海洋」有關的日常生活、產業經貿、科技發明、人口遷移、社群組織、治理系統、文教活動、與價值信念等各個層面的人文活動，及其源流、演變、發展、乃至於相互關聯的脈絡與樣態。因此，當「海洋文化」成為一命題時，它同時指涉與海洋有關之空間格局、人地關係、社會文化、以及構成這些人文內涵的集體經驗與歷史縱深，甚至包含由此而發展的文化理論建構等。本課程旨在培養學生從海洋意識、海洋空間、跨海遷移、依海營生、人海互動等角度認識海洋文化並進一步探討其內涵、發想海洋文化的再現。具體目標概為： （一）增進人對海洋的認知與意識。 （二）認識人與海洋互動的空間格局。 （三）體驗跨海遷移的人文特性。 （四）探討依海營生的人地關係與生活世界。 （五）了解人海互動的理性活動與科技發明。 （六）再現海洋文化的創意發想	The so-called "marine culture" refers to all cultural phenomena and connotations related to the surface space of the "ocean", which includes at least the humanistic activities at all levels of daily life, industry and trade, scientific and technological inventions, population migration, community organisation, governance system, cultural and educational activities, and value beliefs, as well as their origins, evolutions, developments, and interrelated patterns and patterns related to the "ocean". Therefore, when "marine culture" becomes a proposition, it also refers to the spatial pattern, human-land relationship, social culture, collective experience and historical depth that constitute these humanistic connotations, as well as the cultural theories that have been developed as a result. This programme aims to cultivate students' understanding of marine culture from the perspectives of marine consciousness, marine space, cross-sea migration, living by the sea, and human-sea interaction, and to further explore its connotations and to think about the reappearance of marine culture. The specific objectives are as follows (1) To increase people's knowledge and awareness of the ocean. (2) To understand the spatial pattern of human-ocean interaction. (3) To experience the humanistic characteristics of cross-sea migration. (4) To explore the human-land relationship and the living world that depends on the sea. (5) To understand the rational activities and technological inventions of human-sea interaction. (6) To reproduce the creative ideas of marine culture.	2	Required Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG11
2022	Undergraduate	B9E01646	1	A	行銷學	Marketing	1. 了解行銷學概念與趨勢。 2. 培養閱讀分析能力、思考與表達技巧。因此，同學藉由課堂所學習之理論，將其應用於個案中。 3. 培養團隊合作技巧，個案報告與期末報告皆以團隊方式呈現。	1. Understanding the basic concept of marketing and future trend of the industry. 2. Fostering critical thinking and oral presentation via case studies. 3. Promoting teamwork and negotiation skills since all reports are group based.	2	Elective Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG3、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG16、SDG17
2022	Undergraduate	B9E022TK	2	A	消費者心理與行為	Consumer Psychology and Behavior	1. 了解消費者心理與行為的概念與趨勢。 2. 培養閱讀分析能力、思考與表達技巧。因此，同學藉由課堂所學習之理論，將其應用於個案中。 3. 培養團隊合作技巧，個案報告與期末報告皆以團隊方式呈現。	1. Understanding the basic concept of consumer behavior and psychology and future trend of the industry. 2. Fostering critical thinking and oral presentation via case studies. 3. Promoting teamwork and negotiation skills since all reports are group based.	2	Required Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG3、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG16、SDG17
2022	Undergraduate	B9E022GC	2	A	海洋書寫與傳說	Ocean Writing and Myth	(一)情意方面：配合本校以發展「海洋」為特色的教學方向，期能透過閱讀中國文學中的海洋書寫與傳說，使學生瞭解中國文人面對海洋時所興發的情感或人生哲思，且能應用所學內涵落實至對一己周遭海洋環境的觀察、思維與情感體驗，進而培養出具「海洋視野與人文關懷的海大人」之素養。 (二)認知方面：期能透過對不同時空的中國文學作品各具特色的海洋書寫（內涵與形式技巧）的閱讀、詮釋、分析與鑑賞，使學生能系統地認識中國文學在海洋書寫方面的發展情況及其書寫特色，進而提昇學生對海洋文學的鑑賞能力。 (三)技能方面：課程內容雖以「閱讀」為主，仍會輔以「書寫」的訓練（撰寫書面報告、隨堂寫作）與「口語發表」的訓練（上台報告、隨堂指定發表），期能使學生在閱讀能力、寫作能力與口頭發表能力均有所提昇。	(a) Emotional aspect: In line with the teaching direction of our university featuring the development of "ocean", it is hoped that through the reading of oceanic writings and legends in Chinese literature, students can understand the emotions and philosophies of Chinese literati when facing the ocean and apply what they have learnt to the observation, thinking and emotional experience of the oceanic environment around them, and then cultivate the qualities of "oceanic vision and humanistic care of Haiku University people". (b) Awareness: Through reading, interpreting, analysing and appreciating the distinctive marine writing (content and formal techniques) of Chinese literature from different time periods, students will be able to systematically understand the development of Chinese literature in marine writing and its writing characteristics, and then enhance their ability to appreciate marine literature. (c) Skills: Although the curriculum focuses on "reading", it is supplemented by "writing" training (written reports, classroom writing) and "oral presentation" training (stage reports, classroom presentations), with the aim of improving students' reading, writing and oral presentation skills.	2	Required Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG4、SDG11、SDG12、SDG13、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B9E0335B	3	A	文化盤點實務與實習	Cultural Inventory Practices and Internships	1、無論是「由上而下」的文化治理或是由下而上的社區營造/地方創生，其策略擬定的依據之一即是文化盤點的成果，因此希冀藉此課程讓同學瞭解文化盤點的重要性。 2、學習文化盤點的方法。 3、文化盤點的成果能順利轉化成1072專題展文創的元素。	1. Whether it is "top-down" cultural governance or bottom-up community building/local creation, one of the bases for strategy development is the results of cultural inventory, so we hope that this course will help students understand the importance of cultural inventory.Therefore, we hope that this course will help students to understand the importance of cultural inventory. 2.To learn the methods of cultural inventory. 3.The results of the cultural inventory can be smoothly transformed into the elements of the 1072 Project.	2	Required Course	海洋文創設計產業學士學位學程 Department of Cultural Creative Design	SDG8、SDG9
2022	Master Program	M34014AW	1	A	環境微生物專題討論	The Seminar of Environmental Microorganisms	介紹微生物之生態，微生物在生活中的存在、扮演的角色、以及相關的應用。核心能力：1. 了解如何分析微生物生態、2. 了解微生物菌群分析基本知識來進行學術文章的閱讀與撰寫。	We will introduce the definition and ecology of microbes, the existence of microorganisms in life and the role-played on the environments and the related application of microorganisms. Core learning outcomes: 1. The students should be conversant with basic microbial ecology and the related knowledge. 2. The students should be able to use basic knowledge of microbial ecology for further scientific reports reading and writing.	3	Elective Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG6、SDG14
2022	Master Program	M3401D41	1	A	海洋生物學特論	Advanced Marine Biology	加強本所學生海洋生物之基礎知礎與最新研究成果與潮流。由本所全體老師依各自專長，輪流介紹海洋濾過性病毒、海洋細菌、真菌、原生動物、浮游植物、浮游動物、底棲海藻、無脊椎動物、魚類及其它海洋脊椎動物。介紹其分類、生態、生活史、生理、行為、分佈、演化與人類之關係等等。	Enhance the basic knowledge of marine biology and the latest research results and trends of our students. All teachers of the Institute will take turns to introduce marine filtration viruses, marine bacteria, fungi, protozoa, phytoplankton, zooplankton, benthic algae, invertebrates, fishes and other marine vertebrates according to their respective expertise. We will introduce their classification, ecology, life history, physiology, behaviour, distribution, evolution and relationship with human beings.	2	Required Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG14
2022	Master Program	M3411I38	1	A	專題討論	Institute Seminar	本課程主要包括兩個目標，一為讓學生培養與練習科學溝通技巧與表達能力，再者為發展所內的互動。今年另一目標為讓參與課程的學生在學期結束後都具有高水準的表達	1. To train the students with scientific presentation skills 2. To facilitate the students to present their thesis studies in a scientific way.	1	Required Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG14
2022	Master Program	M34013O5	1	A	分子生態學	Molecular Ecology	本課程旨在探討不同生態議題時可使用之不同的分子生物技術。	This course is for introducing how molecular techniques can be used to tackle various ecological questions.	2	Elective Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG7、SDG13、SDG14、SDG15
2022	Master Program	M34014MW	1	A	海洋細菌生理與鑑定	Physiology and Identification of Marine Bacteria	台灣身為島國，海洋微生物資源豐富，在微生物資源開發上，時常有機會發掘出新的海洋細菌菌種，然而菌種的描述與鑑定需要一系列的測試與流程，希望透過此課程，學生可以了解如何鑑定菌種，並有機會進行海洋菌種相關的研究。	As an island country, Taiwan is rich in marine microbial resources. In the development of microbial resources, there are often opportunities to discover marine bacterial species. However, the description and identification of bacterial species require a series of tests and procedures. We hope that students can learn how to identify bacterial species and have the opportunity to do related researches of marine bacteria.	3	Elective Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG14
2022	Master Program	M3412I38	2	A	專題討論	Institute Seminar	本課程主要包括兩個目標，一為讓學生培養與練習科學溝通技巧與表達能力，再者為發展所內的互動。今年另一目標為讓參與課程的學生在學期結束後都具有高水準的表達	1. To train the students with scientific presentation skills 2. To facilitate the students to present their thesis studies in a scientific way.	1	Elective Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG14
2022	Master Program	M34013O6	1	A	無脊椎動物學	Invertebrate Zoology	此課程旨在進一步了解無脊椎動物的分類類群、解剖、生理及與生態環境之關聯。	This course is for introducing the systematic classification of invertebrates, their anatomy, physiology and ecological relationships in the environment.	3	Elective Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG14、SDG15
2022	Master Program	M3401955	1	A	科學論文寫作	Scientific Writing	透過老師課程講解及學生討論了解科學論文的組成要素和如何寫一篇科學論文,包括科學性論文寫作格式、文獻收集及相當英文用語以及學位論文及計畫之寫作技巧等等。	Through the lecture and discussion, students will gain the scientific writing skills for their graduate studies and thesis writing	2	Elective Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG4、SDG14
2022	Master Program	M3411C15	1	A	海洋生物調查技術	Marine Biological Research Methods	本科目為配合本所「海洋生物學特論」、「海洋生態學」所開設的示範及實作課程，由本所全體老師任教。目的在使學生對於常用的海洋生物研究技術有初步的了解，並能獲得第一手的操作經驗。主要內容包括：各類海洋生物的識別與計數方法，環境中物理化學因子的分析與測定，動物行為的觀察法，生態學上的電腦模擬，以及電子顯微簡介等。	This subject is designed to complement the demonstration and practical courses offered by the Institute's "Special Topics in Marine Biology" and "Marine Ecology", and is taught by all of the Institute's teachers. It aims to provide students with an initial understanding of commonly used marine biological research techniques and enable them to gain first-hand operational experience. The main topics include: identification and counting of marine organisms, analysis and determination of physico-chemical factors in the environment, observation of animal behaviour, computer simulation in ecology, and introduction to electron microscopy.	1	Required Course	海洋生物研究所碩士班 Institute of Marine Biology	SDG14
2022	Undergraduate	B38023UG	2	A	應用藻類學	Applied Phycology	理解深化海洋植物的特徵與增養技術	To understand well to characteristics and propagation and culture technology of marine plants	2	Elective Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG6、SDG11、SDG13、SDG14

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2022	Undergraduate	B38012SX	1	A	程式設計與資料處理	Programming and Data Processing	透過程式設計邏輯與語法，建構起資料處理模式，並且製作出所需之應用表單。學生於本課程將學習與探討 1. 程式設計：包含程式設計邏輯與結構，透過問題導向方式設計解決方案。 2. 資料處理：包含資料規劃與資料格式處理，將資料能做有效使用。 3. 程式設計與資料處理：整合程式與資料之運算，建構所需應用程式。 4. 其他輔助技術：包含其他輸入或輸出模式之探討。	To construct a data processing model through programming logic and syntax, and to create the required application forms. In this course, students will study and explore 1. programming: including programming logic and structure, and designing solutions through a problem-oriented approach. 2. data processing: including data planning and data formatting, to make effective use of data. 3. Programming and Data Processing: Integrate programming and data computation to construct the required application programmes. 4. other auxiliary technologies: including the exploration of other input or output modes.	2	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG9
2022	Undergraduate	B38012VX	1	A	海洋生物科技與產業	Marine Biotechnology and Biotech Industries	本課程主要邀請與海洋科技產業發展相關學者專家或產業人士蒞校演講，使學生瞭解海洋生物科技現況與相關產業的實際運作，以及未來發展方向。	This programme invites lectures by scholars and experts related to the development of the marine technology industry to enable students to understand the current status of marine biotechnology, the actual operation of the related industries, and the direction of future development.	2	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG1、SDG2、SDG4、SDG8、SDG9、SDG14
2022	Undergraduate	B3801M9J	1	A	微積分(一)	Calculus (I)	希望能讓學生從微積分這門完整的基礎數學知識中學到如何運用數學語言進行思考，建立起分析問題與解決問題的能力。	The objective of this course is to teach students to fully grasp the basic tool of mathematics, to learn the ability of analyzing and solving problems, and to cultivate students the ability of learning advanced mathematics.	3	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG4、SDG5
2022	Undergraduate	B380145P	1	A	生物學(一)	Biology (I)	生物學是生命科學中的基礎學科，目的為給學生對生物及生命科學具有正確觀念與認知。本學期課程設計以細胞生物學、分子生物學及遺傳演化學三單元為主，除了教授課本中基本知識外，也補充最新科學知識，以使學生除了具備基本知識外也兼具現代科學觀。	The purpose of the course in biology is aimed to stimulate the interest of students in biological sciences and enlighten the curiosity of natural phenomena.	3	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG14、SDG15
2022	Undergraduate	B380243P	2	A	藻類學	Phycology	1. 引導學生認識藻類：藉由教師及校外演講者介紹我國及世界海域可見之各種藻類，引導學生認識藻類在生態系及日常生活中重要的地位。 2. 引導學生發現自身與藻類的連結：由教師引導學生查詢各種藻類的利用，使學生瞭解藻類對於人們日常生活及產業的貢獻。 3. 使學生自發性的關心藻類相關產業的資訊：藉由課程進行，使學生在瞭解藻類後，開始關注並思索我國藻類相關產業現況與未來可能的變化，增進學生對藻類相關產業的關心與瞭解。	1. Introducing students to algae: Teachers and external speakers will introduce the various types of algae that can be found in our country and the world's oceans, so that students can understand the important position of algae in the ecosystem and in daily life. 2. to guide students to discover their own connection with algae: teachers will guide students to enquire about the use of various kinds of algae, so that students can understand the contribution of algae to people's daily life and industries. 3. To make students spontaneously care about the information of algae-related industries: Through the course, students will begin to pay attention to and think about the current situation and possible future changes of the algae-related industries in China after understanding algae, so as to increase students' concern and understanding of the algae-related industries.	3	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG14
2022	Undergraduate	B380145Q	1	A	生物學實驗(一)	Biology Lab. (I)	期望藉由實驗課程的操作，對生命科學有一基礎認知，繼而引發學生對生命科學的興趣，繼續進修相關的各項專科高階課程，或在對生命奧秘的探討有研究的熱忱。	Through operating the experiments by themselves, the students will gain the knowledge of life science.	1	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG14、SDG15
2022	Undergraduate	B380260C	2	A	有機化學(一)	Organic Chemistry (I)	本課程強調有機化學領域的基礎理論和定義，配合教與學合一的理念，共同體認以有機化學知識闡述生命科學的邏輯概念，並建立學生研讀科技英語的能力。	This course emphasises the fundamental theories and definitions in the field of organic chemistry, together with the concept of teaching-learning integration, which recognises the logical concepts of the life sciences in the context of the knowledge of organic chemistry, and builds the students' ability to study scientific and technological English.	3	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG4
2022	Undergraduate	B3801L6M	1	A	普通化學實驗(一)	General Chemistry Lab.(I)	使學生學會化學實驗之基礎操作	To enable students to learn the basics of chemistry experiments.	1	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B380238U	2	A	海洋活性物質利用與藥物開發	Marine Active Substance Utilization and Drug Development	海洋環境具有高鹽、高壓、低溫、缺氧等迥異於陸地環境的特點，在此特殊的生長環境中，海洋生物在長期的進化過程中也隨之形成了與陸地生物不同的代謝途徑和機體防禦機制，產生了一些結構獨特而藥理毒理作用顯著的活性物質。因此，海洋環境的特殊性和物種的多樣性構成了海洋天然活性產物的多樣性基礎。將產業應用與學術理論做串聯，使學生得以瞭解自身所學之特色及可應用方向。	The marine environment is characterised by high salt, high pressure, low temperature and lack of oxygen, which are very different from the land environment. In this special growing environment, marine organisms have developed different metabolic pathways and body defence mechanisms from those of land organisms in the long-term evolutionary process, which has resulted in a number of active substances with unique structures and significant pharmacological and toxicological effects. Therefore, the specificity of the marine environment and the diversity of species form the basis for the diversity of marine natural active products. By linking industrial applications with academic theories, students will be able to understand the characteristics of their own studies and the direction of application.	3	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG3、SDG4、SDG9、SDG12
2022	Undergraduate	B3802472	2	A	生態學	Ecology	生態學是一門瞭解地球上生命體與環境互動關係之綜合學科。課程除介紹生態學中的基本概念外，並佐以現今熱門之生態議題，透過實例使學生思考地球環境改變及其相關之因應策略，以期讓學生瞭解生態學之探討重點及其實際應用，並討論以生態學觀點出發保護現有之資源，以期達到生態資源之永續利用。	Ecology is a branch of biology that studies the interactions among organisms and their environments. The aim of this course is to provide students with the concepts in ecological sciences. The lecture also includes the significant ecological issues.	3	Required Course	海洋生物科技學士學位學程 bachelor degree program in marine biotechnology	SDG4、SDG13、SDG14、SDG15
2022	Master Program	M37014JW	1	A	國際漁業管理與法規特論	Special Topics on International Fisheries Management Law	•熟悉法學資料蒐集與論文寫作 •深入探討台灣目前漁業管理規範的問題以及可能之解決方式 •比較國際組織、區域性漁業管理組織以及他國相關漁業管理規範 •提供我國政府法律政策之建議	•Develop legal research and legal writing skills; •Have in-depth discussion on the problems of current fisheries management issues and find out plausible solutions; •Compare relevant fisheries management regulations among international organizations, regional fisheries management organizations, and States; •Provide legal advice as a legal professional.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG10、SDG16、SDG17
2022	Master Program	M37014JV	1	A	當代海洋法制議題研究	Contemporary Issues of the Law of the Sea	*了解國際環境法體系以及相關重要法律文件 *搜尋、閱讀並分析法律文件 *建立對環境永續之認知 *對當代國際漁業相關議題提出批判分析	*Understand international environmental law regime and relevant important instruments *Enhance the ability to search, read, and analyze legal documents *Gain understandings of environmental sustainability *Provide professional analysis and critical thinking on contemporary fishery-related issues	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG11、SDG16、SDG17
2022	Master Program	M37014FV	1	A	海洋政策與行政	Ocean Policy and Administration	•了解我國海洋政策中海域立法、海洋行政與海洋執法三大面向，並掌握我國海洋政策體系 •了解公共政策在海洋事務上的應用 •了解國內與國際社會海洋政策相關重要文件。 •對我國政策提出批判思考 •掌握國家考試內容	Understand the three major aspects of China's ocean policy, namely maritime legislation, maritime administration and maritime law enforcement, and to grasp the system of China's ocean policy. - Understand the application of public policy in ocean affairs - Understand the important documents related to domestic and international ocean policy. - Critical thinking about China's policies - Master the content of the national examination	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG14、SDG16
2022	Master Program	M3701H8J	1	A	國際海洋法	International Law of the Sea	培養學生認識國際海洋法之規範，了解國家於各個海域之權利與義務，並思考相關海上行為之適法性。	This course provides students a good understanding of the United Nations Convention on the Law of the Sea (UNCLOS), including relevant rights and obligations of States in various maritime zones. By reading and interpreting legal materials, students are able to provide critical thinking on the legality of activities on the sea and give insights into ocean policy.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG14、SDG17
2022	Master Program	M37013CZ	1	A	自然資源經濟學	Natural Resource Economics	使學生能理解自然資源與經濟學的關係，以及如何應用經濟學原理幫助自然資源管理。	The objective of this course is for students understand how to incorporate economics in nature resource management.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG7、SDG12、SDG14、SDG15
2022	Master Program	M37010EX	1	A	海洋資源總論	General Topics on Marine Resources	本課程教授之主要目的乃在使同學了解到海洋生物資源(特別是魚蝦類資源)的特性及其開發與管理的複雜性;生物資源乃一可更新(re-newable)的資源,其存在與再生產的潛力與海洋環境及人為的開發與利用均有極為密切的關聯;不了解生物資源的特性(如生活史、族群結構與生物量生產特徵等)將使資源的存續受到威脅,而了解到資源的生產與再生的特徵卻也無法確保其永續,除非人類的開發與利用均能維持在一合理的水平,使生物資源本身得以在外在衝擊之後能有生息與更新的機會;因此,本課程將就海洋生物資源的特性、生產與更新,及其與海洋環境變動及人類開發等相互之關聯做一綜合性的概觀介紹與討論,以建立同學對海洋再生性資源開發與永續利用的基本觀念	The aims of this class are to discuss the characteristics of marine resources (especially biological resources), and their complexities in exploitations and management. The biological resources are renewable, and their persistence and productive potential are closely linked to the variability of the environment and human exploitation. The sustainability of marine resources will be threatened if their characteristics could not be understood. However, even if their characteristics are understood, their sustainability still cannot be guaranteed if human exploitation is inadequate. This class will provide broad discussions on the characteristics of marine biological resources, their interactions with the physical environment, and human exploitation. It is expected that concepts on the exploitation and sustainable use of marine renewable resources be established for students attended.	2	Required Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG12、SDG13、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M3701D4C	1	A	海洋生態系變動機制	Special Topic on Dynamics of Marine Ecosystem	海洋生態乃探討海洋生物與其週遭環境(生物與非生物環境)相互關係之學門;海洋生態系的變動與人類的活動具有密切之關聯;本課程教授之主要目的在使同學了解到海洋生態系之組成及其變動機制，以及天然或人為環境變動(特別是人類利用如漁業開發及其他活動等)對海洋生態系所造成之影響；課程除對生態機制做一探討外,也將針對如:優氧化，生物多樣性，海洋保護區，漁業開發以及溫室效應等議題作一介紹，並將進一步討論生態系變動與管理之因應對策	Changes in marine ecosystems are closely related to natural events and human activities. The aims of this class are to discuss the composition of marine ecosystems and to understand the mechanisms and processes that drive ecosystem changes over both short and long-term temporal and spatial scales. Human perturbations in relation to these changes will be emphasized, and some thoughts on the management and protection of the marine ecosystem will also be shared and discussed.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG12、SDG13、SDG14
2022	Master Program	M3701Q12	1	A	漁業生物學特論	Special Topics on Fishery Biology	漁業生物學之瞭解乃漁業資源評估與管理以及漁業相關研究領域之基石。本課程教授之主要目的乃在介紹同學漁業與資源生物學相關研究之概念、其重要性與研究方法，其修課同學瞭解到漁業與資源生物學相關研究之技能，如系群的判別，豐度的估算，標識放流的應用，漁業資源的分佈與洄游，族群結構，年齡與成長，成熟與生殖，魚類食性的分析...等.，除增進同學水產資源學相關學識外，並進而培養其從事漁業與資源生物相關領域研究之能力。	Fishery biology is a basis for understanding stock assessment and management of any fish species. Thus, this class aims to introduce methods commonly used for fishery studies including stock identification, estimation of stock abundance, understanding distribution patterns (in space and time) and migration of fishes; tagging applications; age and growth, reproductive biology, and feeding ecology of fishes. These information are essential for future understanding of the dynamics of any fish stocks and related fisheries.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG14
2022	Master Program	M37010VI	1	A	臺灣沿近海漁業資源管理之個案研究	Independent Study on Management of Coastal & Offshore Fishery Resources in Taiwan	本堂課修習的主要目的，乃針對同學不同之論文研究主題，設計密切相關之子題，藉由資料收集與討論，建構與強化撰寫論文所需之相關資訊。本課程每週上課將由同學針對老師在前兩週所設計主題中的各個子題進行文獻回顧與整理，並以ppt向同學跟老師做簡報；每個子題都應完整說明其理論基礎，並提供2-3範例。報告後由老師提問，並補充這些子題的相關知識或同學報告不足之處。各次討論，回應較為週全、完整的，就代表同學對該議題的資料收集與探討較為週詳，得分也就越高。而老師所問的問題在課後會提供給各位同學，由同學針對自己不足之層面進行補充，並將完整的論述重新補入所繳交的習作報告中，文後並應詳列所有範例完整的文獻出處。期望在課程結束後，能幫助同學對其研究主題有一更為深入且廣泛的了解，並	The purposes of this class are to help students to gather information on their own thesis research, and help them to read through critical literatures on topics that closely related to their thesis research. Each week, specific topics will be assigned, and discussed. Feedbacks will then be provided and supplemental materials will also be added by instructor to fulfill the gap of students' knowledge on each of these topics. The final report are then modified and completed. All weekly reports written by each student will need to be in a format of a scientific paper, and literature cited also need to be included. Hopefully, by the end of this class, more deeply knowledge on the topics of thesis research by students can be achieved, and thesis writing can also be easily completed.	2	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG12、SDG14
2022	Master Program	M37010H4	1	A	國際漁業資源評估個案	Case Study of International Fisheries Assessment	透過研究論文與報告選讀與討論，讓研究生了解國際海洋漁業生物資源評估與管理模式，以及未來發展趨勢，培養學生獨立思考以及分析評估之基本能力。	Specific scientific papers or reports would be selected for discussion. It is expected that students would be able to understand the international fisheriess stock assessments, management models, and furture development. It aims to train the students indenpendent thinking, analysis and evaluation ability.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG14
2022	Master Program	M3701N6L	1	A	資料處理分析與呈現	Data Process Analysis and Presentation	本課程教授之主要目的在使同學了解到資料收集與科學研究之相互關聯，介紹資料之特性與蒐集處理原則,以及如何將分析後之資料以圖表及簡報方式做有效之呈現等。本課程將分五大部份分別介紹SAS基礎指令(程序與統計分析)，漁業資料的特性，基礎統計概念，科學繪圖，與資料呈現的方法與簡報的製作等。課程將以台灣漁獲資料為基礎,利用統計分析軟體SAS進行解析，並利用科學繪圖軟體Sigmaplot製作科學圖表，最後再將結果利用視覺化(圖、表、地圖、媒體)工具予以呈現並報告。本課程將配合電腦實作，讓修課同學逐步建立論文研究所必備的技能。期望同學能在修完本課程之後，能對該等技能有一廣泛性的了解，並對未來各自論文研究之資料處理分析與圖表呈現提供立即的運用，以利論文研究之完成。本課程的教授除簡報介紹之外，每堂課並須配合軟體教授進度進行1-1.5小時	This class emphasis on the technical perspectives of data collections, processes and presentation, which are essential for graduate students when working on their own thesis research. Except for some discussions on the principles of scientific data collection, two softwares will also be introduced in the class, the SAS basically dealing with how the collected data be analyzed, and the SigmaPlot is useful for present your results in a graphical forms. Thus, for each lecture, at least one hour will be left for student to do the exercises. Hopefully, with these arrangement, each of you will not only be able to analyze your thesis results independently, but also present these results with full confidence.	3	Elective Course	海洋事務與資源管理研究所碩士班 Institute of Marine Resource Management	SDG4、SDG14
2022	PH.D Program	D74012VC	1	A	法學方法論專題研究	A Study on the Methodology of Law	奠定同學對於法學方法論基礎概念之認識與掌握，引導其問題意識之形成，兼以互動式討論，促進學生對於基本議題之理解分析及體系性掌握，期激發以不同角度切入跨領域研究之進階學習的興趣；並透過報告論文之資料搜集及撰寫，培養學生深度討論並掌握問題方向之進階研究能力。	This course is designed to provide students with an understanding and mastery of the basic concepts of legal methodology, to guide them in the formation of a sense of problem, to promote students' understanding and analysis of basic issues through interactive discussions, and to stimulate students' interest in advanced study from different perspectives of cross-cutting research; and to cultivate students' ability to discuss in depth and grasp the direction of the problem through the collection of data and the writing of reports.	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG1、SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16
2022	PH.D Program	D740143E	1	A	民法專題研究(一)	Seminar on Civil Code (I)	針對設定之民法上的議題，深入研討，以獲得整體、深入的知識。(借名登記契約，消滅時效)	In-depth study of civil law issues in order to obtain a comprehensive and in-depth knowledge. (Registration of Deed of Assignment, Extinction of Statute of Limitations)	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	PH.D Program	D74024JO	2	A	國際海洋資源法專題研究	Seminar on Regulations of International Marine Resources	海洋資源管轄與利用理解海洋資源法的基本架構。	Understanding the legal architecture of international marine resource jurisdiction infrastructure.	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG14、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D740104K	1	A	海洋政策專題研究	Seminar on Ocean Policy	讓學生對於本課程所涵蓋之最新法律發展有深刻之掌握	To enable students to have a deep understanding of the latest legal developments covered in this programme.	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG17
2022	PH.D Program	D7401H6B	1	A	國際刑法專題研究	Seminar on International Criminal Law	讓學生對於本課程所涵蓋之最新法律發展有深刻之掌握	To enable students to have a deep understanding of the latest legal developments covered in this programme.	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG16
2022	PH.D Program	D7401H80	1	A	國際法專題研究(一)	Seminar on International Law (I)	本課程的目標在使博班同學：(1) 熟悉根本的國際法概念、原則與爭辯議題；(2) 知悉應用各式國際法判決的方法；(3) 提出國際法論述的能力。	The course aims to equip doctorate students with the ability to: (1) familiarize fundamental concepts, principles and contending issues in international law; (2) grasp a variety of methods in applying international case law; (3) provide international legal arguments.	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG1、SDG4、SDG14、SDG16、SDG17
2022	PH.D Program	D7401I19	1	A	國際漁業法專題研究	Seminar on International Fisheries Law	1.使得修習本項課程學生瞭解，海洋對人類生存的重要性，海洋經由風及海流提供全球各地氣候調節，以及經由降雨提供淡水，並且盛產漁類資源，作為全球許多人口主要蛋白質來源。 2.長久以來，人類大都認為，海洋之中漁類資源取之不盡，用之不竭，因而國際海洋法僅規範各國在各類型海域捕魚權利，並未預想到海洋生物資源亦須保育維護。第二次世界大戰之後，人類造船、航海及捕魚技術大大進步，捕撈數量迅速增加，造成若干海域有過漁現象，因此1958年聯合國第一次海洋法會議中，各國開始進行初步合作，嘗試保育公海漁業資源，但是效果頗為有限。 3.1960年代開始，亞洲、非洲及拉丁美洲殖民地紛紛獨立，加入國際社會，要求修改國際海洋法規則，使得新興國家能夠對鄰近海域漁業資源行使更大的管理及使用權利，於是聯合國第三次海洋法會議於1973年開始舉行，各國經過9年談判妥協之後，終於達成1982年聯合國海洋法公約(簡稱UNCLOS)，對國際海洋法進行重大翻修，納入許多新興制度，也給國際捕魚規則帶來重大改變。 4.UNCLOS 的一項特點是，在領海、專屬經濟海域及公海等不同區域分別訂定捕魚及保育規則，另一項特點是對於若干特定魚種 - 例如跨界魚種、高度洄游魚種、海洋哺乳動物、溯河產卵魚種及降河產卵魚種分別訂定捕魚及保育規定。這兩種作法當然是一種進步，也產生了一些保育效果，但是仍然有重大缺點，即是魚群移動不理會人為海域界限，而且魚群繁殖生存仰賴整個海洋生態健全，所以僅作分區及針對特定魚種保育措施，仍然不能阻止魚類資源枯竭。 5.在1982年UNCLOS制定實施之後，國際捕魚規則繼續朝向加強保育方面發展，制定各種硬法（條約協定）及軟法	1. To enable students of this programme to understand the importance of the oceans and seas to the survival of mankind, as the oceans and seas provide climate regulation around the world through winds and currents, as well as fresh water through rainfall, and are rich in fishery resources, which serve as the main source of protein for many populations around the globe. 2. For a long time, most human beings thought that the fishery resources in the oceans were inexhaustible. Therefore, the international law of the sea only regulates the rights of various countries to fish in various types of sea areas, and does not envisage the conservation and maintenance of marine biological resources. After the Second World War, human shipbuilding, navigation and fishing techniques improved greatly, and the amount of capture fisheries increased rapidly, resulting in overfishing in some areas. Therefore, at the First United Nations Conference on the Law of the Sea in 1958, countries began to engage in preliminary co-operation in an attempt to conserve fishery resources on the high seas, but the effect was rather limited. 3. In the 1960s, colonies in Asia, Africa and Latin America became independent and joined the international community, demanding changes to the international rules of the law of the sea, so that emerging countries could exercise greater management and use of fisheries resources in neighbouring waters. After nine years of negotiation and compromise, the 1982 United Nations Convention on the Law of the Sea (UNCLOS) was finally concluded, which was a major overhaul of the international law of the sea, incorporating many emerging regimes and bringing about significant changes to international fishing regulations. 4. One of the features of UNCLOS is that it establishes	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG1、SDG3、SDG4、SDG5、SDG7、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	PH.D Program	D74023BD	2	A	法學英文名著選讀(三)	Selective Readings on Legal English (Ⅲ)	提升學生閱讀及理解英文法律文件能力，增加認識英文法律辭彙，進而瞭解日本、美國及歐洲等國家對於若干國際法及國內法問題若何因應解決及其思維邏輯，希望學生能夠思考如以我國相關法律處理類似問題，過程及結果是否會有所差異，希望在加強學生英文程度之外，亦能加強對國際法及外國法律的認識瞭解。	To enhance students' ability to read and understand English legal documents, to increase their knowledge of English legal terminology, and to further understand how Japan, the United States, and Europe respond to and solve certain international and domestic law issues and their logic of thinking, hoping that students will be able to think about whether the process and outcome would be different if similar issues were dealt with by the relevant laws of our country, and hoping that in addition to enhancing students' English language proficiency, they will also be able to enhance their knowledge and understanding of international law and foreign law.	2	Elective Course	海洋法律研究所博士班 Institute of the law of the sea	SDG1、SDG3、SDG4、SDG5、SDG8、SDG10、SDG12、SDG16、SDG17
2022	Contiuning Education Master Degree Program	T4601T54	1	B	憲法	Constitutional Law	憲法之主要規範內容為基本權利與國家組織。本課程將從憲政理論的角度，探討憲法在保障個人基本權利上所能發揮的功能及在民主制度中所能扮演的角色。本課程將引導學生自政治哲學與憲法學切入，探尋出近代民主政治所追求的價值，以作為憲法體制的引導；在掌握憲法基本架構下，檢視我國憲政運作現況，以認識憲法制度與人權保障的關係。	This course aims to investigate the constitutional function of protecting individuals human rights and its role in a democratic political system from the perspectives of political philosophy and constitutionalism. The course will discuss values, theories and institutions of constitution law. Finally it will also research on correlation between constitutional institutions and protection of human rights.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG16
2022	Contiuning Education Master Degree Program	T4601H86	1	A	國際海洋法專題研究	Seminar on International Law of the Sea	本課程設計在使同學：(1) 理解國際海洋法的規範與挑戰；(2) 熟悉國際海洋法主要領域的發展；(3) 課程結束後，將具備分析、評論國際海洋法事件與提出法律意見的能力。	This course is designed to enable students to: (1) understand the norms and challenges of the international law of the sea; (2) become familiar with developments in the major areas of the international law of the sea; and (3) be equipped with the ability to analyse and comment on international law of the sea events and to formulate legal opinions by the end of the course.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG2、SDG4、SDG10、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Master Degree Program	T4601D12	1	B	海商法專題研究	Seminar on Maritime Law	一、學生應能明瞭並認知我國海商法與相關國際公約、慣例或外國法例之關係，以及國際海商法發展趨勢。 二、學生應能正確陳述我國現行海商法之相關規定、基礎理論與實務或學說爭議。 三、當學生遭遇相關之事實陳述，應有能力確認該事實所引起之法律爭議，陳述相關法規與原則，並解釋該法規與原則何以能適用於該事實，進而解決該法律爭議。	1.Students should be able to understand and recognise the relationship between maritime law in China and relevant international conventions, conventions or foreign laws, as well as the development trend of international maritime law. 2.Students should be able to state correctly the relevant provisions of the current maritime law of China, the basic theory and practice, or the controversy of the doctrine. 3.When encountering a statement of fact, students should be able to identify the legal disputes arising from that fact, state the relevant statutes and principles, and explain how those statutes and principles can be applied to that fact in order to resolve the legal disputes.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG16
2022	Contiuning Education Master Degree Program	T4601885	1	A	保險法專題研究	Seminar on Insurance Law	一、學生應能正確陳述我國現行保險法之相關規定、基礎理論與實務或學說爭議。 二、當學生遭遇相關之事實陳述，應有能力確認該事實所引起之法律爭議，陳述相關法規與原則，並解釋該法規與原則何以能適用於該事實，進而解決該法律爭議。	Students should be able to correctly state the relevant provisions of the current insurance law in China, basic theories and practical or doctrinal controversies. Students should be able to correctly state the relevant regulations of the current insurance law in China. When encountering a statement of fact, students should be able to identify the legal disputes arising from that fact, state the relevant regulations and principles, and explain the regulations and principles. When the student encounters a statement of fact, he/she should be able to identify the legal controversy arising from the fact, state the relevant statute and principle, and explain how the statute and principle can be applied to the fact in order to resolve the legal controversy. The student should be able to identify the legal dispute arising from the fact and state the relevant statutes and principles, and explain how they apply to the fact, thereby resolving the legal dispute.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Master	T4602H7N	2	A	國際組織專題研究	Seminar on International Organizations	藉由國際組織了解國際法之實踐	Understanding the Practice of International Law through International Organisations.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG4、SDG16、SDG17
2022	Contiuning Education Master	T46014MY	1	A	海洋政策專題研究-總論	Seminar on Ocean Policy-General Provisions	瞭解國際海洋政策基本理論與實踐	Understanding the basic theory and practice of international ocean policy.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG14、SDG16、SDG17
2022	Contiuning Education Master Degree Program	T4621H8Y	1	B	國際法專題研究	Seminar on International Law	本課程目標在使學生理解：(1)國際法體系；(2)國際法的應用及其發展的機制；(3) 在各領域中主導國際活動的國際法原則	The course is designed to develop knowledge and understanding of (1) the international legal system; (2) the main institutions which contribute to the development and application of international law; and (3) the legal rules, principles and processes which govern key areas of inter-state activities.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG14、SDG16、SDG17
2022	Contiuning Education Master	T460134N	1	A	漁業法規專題研究	Seminar on Fisheries Law	了解漁業法的基本架構。	Understand the basic framework of fisheries law.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG8、SDG14
2022	Contiuning Education Master	T46022I1	2	B	商事法-公司法、保險法	Commercial Law-Company Act, Insurance Act	讓同學熟悉公司法之重要觀念及最新發展	To familiarise students with the important concepts and latest developments in company law.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG16
2022	Contiuning Education Master Degree Program	T46011RY	1	B	民法總則	Civil Code - General Principles	使學生了解並熟悉民法總則編作為我國民事法律關係法典的基礎，其重要內容如權利主體、權利客體、法律行為、期日期間等之意涵，並掌握基彼此間之關係。	Students will learn to understand and be familiar with the General Principles of the Civil Law as the basis of the country's civil legal relations code, its important contents such as the meaning of the subject of the right, the object of the right, the legal act, the period of time, etc., and to grasp the relationship between the basics.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Master Degree Program	T4602640	2	B	行政法專題研究	Seminar on Administrative Law	1.奠定同學對於現代行政活動現象及其衍生爭訟態樣之掌握，引導其問題意識之形成，期在法理論與實務交錯思辨下，以互動式討論，促進學生對於現代行政法學重要議題之理解及體系性掌握。 2.自各行政法領域擇選具體個案進行檢討，期透過專題報告之資料搜集、分析及小論文撰寫，培養學生深度討論並增進行政法爭議問題之發掘與進階分析能力。	1. To lay the foundation for students to grasp the phenomenon of modern administrative activities and its derivative litigation patterns, and to guide the formation of their problematic awareness, with the aim of promoting students' understanding and systematic mastery of important issues in modern administrative law through interactive discussions under the intersection of legal theory and practical thinking. 2. Selecting specific cases from various fields of administrative law for review, students are expected to cultivate the ability of in-depth discussion and enhance the discovery and advanced analysis of controversial issues in administrative law through data collection, analysis, and the writing of thesis reports.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG3、SDG5、SDG7、SDG8、SDG9、SDG10、SDG11、SDG16

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2022	Contiuning Education Master Degree Program	T4601885	1	A	保險法專題研究	Seminar on Insurance Law	一、學生應能正確陳述我國現行保險法之相關規定、基礎理論與實務或學說爭議。 二、當學生遭遇相關之事實陳述，應有能力確認該事實所引起之法律爭議，陳述相關法規與原則，並解釋該法規與原則何以能適用於該事實，進而解決該法律爭議。	1.Students should be able to correctly state the relevant provisions of the current insurance law in China and the underlying theoretical and practical or doctrinal controversies. 2.When students are confronted with a statement of fact, they should be able to identify the legal controversy arising from that fact, state the relevant statute and principle, and explain how the statute and principle can be applied to that fact, and then resolve the legal controversy.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Master Degree	T46021S5	2	B	民法債篇各論	Civil Code - Kinds of Obligation	民法為解決私人間糾紛之重要規範，債編各論係將社會交易中可能發生之契約詳定其效力，作為吾人社會交易之準繩。	Civil law is an important norm for resolving disputes between private individuals, and the Treatise on Debt is to define in detail the validity of contracts that may occur in social transactions, and to serve as a criterion for our social transactions.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Master Degree Program	T4602D91	2	A	海權政策專題研究	Study on the Policy of Sea Power	本課程目標在使同學們進入到國際關係的地緣政治情境，核心主軸在強權國家對於海權的思想源流，以及外交政策的制定與執行。當中一個互相援引的脈絡，即國際海洋法的規則。	The objective of the course is to lead students to dive into several geopolitical scenarios under the context of great powers" thoughts and considerations concerning the development of their maritime power. One of the threads that will be mutually-referenced is rules of international law of the sea.	2	Elective Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG2、SDG4、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Master	T46121RZ	2	C	民事訴訟法	Code of Civil Procedure	讓同學經過學習之後對民事訴訟法有整體性之認知，以作為精進訴訟法知識之基礎。	This course is designed to provide students with an overall understanding of civil litigation law and to serve as a basis for improving their knowledge of litigation law.	2	Required Course	海洋法律研究所碩士在職專班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Master Program	M74010L9	1	B	行政程序法專題研究	Seminar on Administrative Procedure Act	1.奠定同學對於正當行政程序保障基礎法理之掌握，並引導其問題意識之形成，期激發以不同角度切入跨領域研究之進階學習的興趣。 2.兼以互動式討論，促進學生對於基本議題之理解分析及體系性掌握。 3.輔以具體個案檢討方式，並透過報告論文之資料搜集及撰寫，培養學生深度討論並掌握問題方向之進階研究能力。	1. To establish students' understanding of the basic jurisprudence of the guarantee of due administrative process, and to guide the formation of their esens of problem, with a view to stimulating their interest in further study from different perspectives in cross-disciplinary research. 2. 2. To promote students' understanding, analysis and systematic mastery of basic issues through interactive discussions. 3. To supplement the review of specific cases, and through the collection of data and writing of papers, students will be able to cultivate the advanced research ability of in-depth discussion and mastery of the direction of the problem.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG3、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16
2022	Master Program	M74011ZN	1	B	行政法總論(二)	Administrative Law - General Principles(II)	1.奠定同學對於現代行政活動及其衍生法現象之掌握，並引導其問題意識之形成，期激發以不同角度切入跨領域研究之進階學習的興趣。 2.兼以互動式討論，促進學生對於基本議題之理解分析及體系性掌握。	1. To establish students' understanding of modern administrative activities and the phenomenon of derivative law, and to guide the formation of their sense of problem, with a view to stimulating their interest in advanced cross-disciplinary studies from different perspectives. 2. 2. To promote students' understanding, analysis and systematic mastery of basic issues through interactive discussions.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG2、SDG3、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG15、SDG16
2022	Master Program	M7401H86	1	A	國際海洋法專題研究	Seminar on International Law of the Sea	本課程設計在使同學：(1) 理解國際海洋法的規範與挑戰；(2) 熟悉國際海洋法主要領域的發展；(3) 課程結束後，將具備分析、評論國際海洋法事件與提出法律意見的能力。	This course is designed to enable students to: (1) understand the norms and challenges of the international law of the sea; (2) become familiar with developments in the major areas of the international law of the sea; and (3) be equipped with the ability to analyse and comment on international law of the sea events and to formulate legal opinions by the end of the course.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG2、SDG2、SDG4、SDG4、SDG10、SDG10、SDG12、SDG12、SDG13、SDG13、SDG14、SDG14、SDG15、SDG16、SDG16、SDG17、SDG17
2022	Master Program	M7401D12	1	B	海商法專題研究	Seminar on Maritime Law	一、學生應能明瞭並認知我國海商法與相關國際公約、慣例或外國法例之關係，以及國際海商法發展趨勢。 二、學生應能正確陳述我國現行海商法之相關規定、基礎理論與實務或學說爭議。 三、當學生遭遇相關之事實陳述，應有能力確認該事實所引起之法律爭議，陳述相關法規與原則，並解釋該法規與原則何以能適用於該事實，進而解決該法律爭議。	1.Students should be able to understand and recognise the relationship between maritime law in China and relevant international conventions, conventions or foreign laws, as well as the development trend of international maritime law. 2.Students should be able to correctly state the relevant provisions of the current maritime law in China, basic theories and practices, or doctrinal disputes. 3.When encountering a statement of fact, students should be able to identify the legal disputes arising from that fact, state the relevant statutes and principles, and explain how those statutes and principles can be applied to that fact, and then resolve the legal disputes.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG8、SDG9、SDG11、SDG17
2022	Master Program	M7402IB3	2	B	國際爭端解決機制專題研究	Seminar on International Dispute Settlement Mechanism	本課程目標是讓同學們漸次熟悉國際公法各領域中，處理國際爭端的諸多方法與工具。	The objective of this course is to familiarise students with the various methods and tools for dealing with international disputes in all areas of public international law.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG2、SDG4、SDG10、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Master Program	M7402D55	2	A	海域劃界專題研究	Seminar on Maritime Delimitation	本課程目標在使同學理解海洋劃界的方法，特別是去熟悉形成這些劃界方法的訴訟案件，以及後續的談判和判決的執行。	The objective of this course is to provide students with an understanding of the methods of maritime delimitation, and in particular to familiarise them with the litigation cases that have shaped these delimitations, as well as the subsequent negotiations and enforcement of judgments.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG2、SDG4、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17

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2022	Master Program	M7402D91	2	A	海權政策專題研究	Maritime Power and Foreign Policy	本課程目標在使同學們進入到國際關係的地緣政治情境，核心主軸在強權國家對於海權的思想源流，以及外交政策的制定與執行，當中一個互相援引的脈絡，即國際海洋法的規範。	The objective of this course is to introduce students to the geopolitical context of international relations, with a central focus on the ideological origins of seapower in the powerful nations, and the formulation and implementation of foreign policy, which invokes an interconnecting nexus, namely, the norms of the international law of the sea.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG2、SDG4、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Master Program	M74022I5	2	B	商事法-保險法、公司法	Commercial Law-Insurance Act, Company Act	讓同學了解公司法的相關概念及最新發展	To enable students to understand the relevant concepts and latest development of company law.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG16
2022	Master Program	M7402I0N	2	A	國際環境保護法專題研究	Seminar on International Environmental Law	本課程目標在引導同學連結國際公法基本概念與國際環境法的發展。將透過相關的條約與國際環境法判決，進入當代最受矚目的國際環境法議題。	The course is designed to connect the fundamental concepts of public international law with the development of international environmental law. Through relevant non-binding instruments, treaties and international case law, it will guide the students into the most eye-catching and contending issues with regard to international law and the environment.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Master Program	M74011S1	1	B	行政法總論（一）	Administrative Law - General Principles(I)	1.行政法基礎理論之介紹 2.奠定同學對於現代行政活動及其衍生法現象之掌握，並引導其問題意識之形成，期激發以不同角度切入跨領域研究之進階學習的興趣。兼以互動式討論，促進學生對於基本議題之理解分析及體系性掌握。	1. Introduction to the basic theories of administrative law. 2. To establish students' understanding of modern administrative activities and the phenomenon of derivative law, and to guide the formation of their sense of problem, with a view to stimulating their interest in further study from different perspectives in cross-field research. Interactive discussions will also be used to promote students' understanding of basic issues and systematic mastery.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG3、SDG4、SDG5、SDG6、SDG8、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16
2022	Master Program	M74121RZ	2	B	民事訴訟法	Code of Civil Procedure	讓同學經過學習之後對民事訴訟法有整體性之認知，以作為精進訴訟法知識之基礎。	This course is designed to provide students with a comprehensive understanding of civil litigation law, which will serve as a foundation for improving their knowledge of litigation law.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Master Program	M74024MZ	2	A	海岸管理法與國家公園法專題研究	Seminar on Coast Act and National Park Law	1.引導同學在認識聯合國永續發展目標下，認識海岸管理暨國家公園管制行政活動在今日之法律意義、其在我國法制之定位與規範體系、與其他法領域之交錯適用課題等，協助學生從組織法、作用法及救濟法層面切入，期可掌握海岸管理暨國家公園管制行政法制之全貌。 2.選具體個案進行檢討，在法理論與實務交錯思辨下，以互動式討論，引導參與學生其問題意識之形成，並透過專題報告之資料搜集、分析及小論文撰寫，增進學生對於法律問題之進階分析能力。	1. To guide students to understand the legal significance of the administrative activities of coastal management and national parks control today, its position in China's legal system, its regulatory system, and its intersection with other areas of law under the goal of sustainable development of the United Nations, and to assist students to grasp the whole picture of the administrative legal system of coastal management and national parks control from the levels of organisational law, functional law, and relief law. 2. 2. Selecting specific cases for review, under the intersection of legal theory and practice, interactive discussions will guide students in the formation of their sense of problem, and through the collection and analysis of data and the writing of essays, students will be able to improve their ability to analyse the legal issues in an advanced manner.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG7、SDG9、SDG12、SDG13、SDG14、SDG15
2022	Master Program	M74010AG	2	A	地方自治法專題研究	Seminar on Local Government Law	1.奠定同學對於地方自治法理論之掌握，並引導其問題意識之形成。 2.兼以互動式討論，以掌握我國地方自治法制現況與相關爭議，提升對於相關法律問題之解析能力。 3.輔以具體個案檢討方式，並透過報告論文之資料搜集及撰寫，培養學生深度討論並掌握問題方向之進階研究能力。	1. To lay the foundation for students to grasp the theory of local autonomy law and to guide the formation of their sense of problem. 2. 2. To grasp the current situation of the local autonomy law and related controversies, and to enhance the ability to analyse related legal issues through interactive discussions. 3. To supplement the review of specific cases, and through the collection of data and writing of thesis, to cultivate the students' advanced research ability of in-depth discussion and mastery of the direction of the problem.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG11、SDG14、SDG15、SDG16
2022	Master Program	M74011RY	1	B	民法總則	Civil Code - General Principles	使學生了解並熟悉民法總則編作為我國民事法律關係法典的基礎，其重要內容如權利主體、權利客體、法律行為、期日期間等之意涵，並掌握基彼此間之關係。	Students will learn to understand and be familiar with the General Principles of the Civil Law as the basis of the country's civil legal relations code, its important contents such as the meaning of the subject of the right, the object of the right, the legal act, the period of time, etc., and to grasp the relationship between the basics.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Master Program	M7401805	1	A	法學日文	Japanese for Law Student	本課程主要是為法學日文之初階課程。包括基本句型、文法的講授，以培養學生日文正確發音的基礎能力並有效率地學習及應用日文的基礎文法，並協助學生精確掌握法學日文的專業用語，透過嚴謹讀解日文文獻之讀解，進而奠定基礎日學日文閱讀能力，以期在進階課程之後，能夠閱覽日文法學文獻。	This course is an introductory course in the Japanese language. It includes the teaching of basic sentence patterns and grammar, in order to develop students' basic ability to pronounce Japanese correctly and to learn and apply the basic grammar of Japanese efficiently. It also helps students to accurately grasp the professional terminology of Japanese for legal studies, and to build up their basic Japanese reading skills through the rigorous reading of Japanese literature, with a view to being able to read Japanese legal literature after the advanced course.	0	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG9、SDG10、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M7401T54	1	B	憲法	Constitutional Law	憲法之主要規範內容為基本權利與國家組織。本課程將從憲政理論的角度，探討憲法在保障個人基本權利上所能發揮的功能及在民主制度中所能扮演的角色。本課程將引導學生自政治哲學與憲法學切入，探尋出近代民主政治所追求的價值，以作為憲法體制的引導；在掌握憲法基本架構下，檢視我國憲政運作現況，以認識憲法制度與人權保障的關係。	This course aims to investigate the constitutional function of protecting individual"s human rights and its role in a democratic political system from the perspectives of political philosophy and constitutionalism. The course will discuss values, theories and institutions of constitution law. Finally it will also research on correlation between constitutional institutions and protection of human rights.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG3、SDG4、SDG5、 SDG8、SDG10、SDG12、SDG16
2022	Master Program	M74021S5	2	B	民法債篇各論	Civil Code - Kinds of Obligation	民法為解決私人間糾紛之重要規範，債編各論係將社會交易中可能發生之契約詳定其效力，作為吾人社會交易之準繩。	Civil law is an important norm for resolving disputes between private individuals, and the Treatise on Debt is to define in detail the validity of contracts that may occur in social transactions, and to serve as a criterion for our social transactions.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG5、SDG8、 SDG10、SDG11、SDG12、 SDG16、SDG17
2022	Master Program	M7401I18	1	A	國際法專題研究	Seminar on International Law	本課程目標在使學生理解：(1)國際法體系；(2)國際法的應用及其發展的機制；(3) 在各領域中主導國際活動的國際法原則。	The course is designed to develop knowledge and understanding of (1) the international legal system; (2) the main institutions which contribute to the development and application of international law; and (3) the legal rules, principles and processes which govern key areas of inter-state activities.	2	Required Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG4、SDG14、SDG16、 SDG17
2022	Master Program	M7401H6B	1	A	國際刑法專題研究	Seminar on International Criminal Law	本課程希望透過教師授課、時事介紹、案例探討及討論等方式，教授國際刑法專題研究各主題的理論、實踐及運用。課程中將針對國際刑法之概論、國際刑事犯罪實質規範、司法程序及實踐作介紹，希望修課同學能經由聽講及討論過程中學習，並擴展其對國際刑法認識之深度及廣度。	This programme aims to teach the theory, practice and application of various topics in international criminal law through lectures, current affairs, case studies and discussions. The course will focus on the introduction of international criminal law, the substantive norms of international criminal offences, judicial procedures and practices, hoping that students can learn through lectures and discussions, and expand their understanding of international criminal law in depth and breadth.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG5、SDG10、SDG16
2022	Master Program	M7402I19	2	A	國際漁業法規專題研究	Seminar on International Fisheries Law	理解國際漁業法的基本架構	Understanding the basic framework of international fisheries law	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG14、SDG16、SDG17
2022	Master Program	M7401H86	1	A	國際海洋法專題研究	Seminar on International Law of the Sea	本課程目標是協助學生熟悉當前海洋法議題與主要的與挑戰。期末同學將有能力評判相關國際海洋法事件、提供法律意見。	The aim of the course is to assist students to familiarise with contemporary major issues and challenges of the law of the sea. By the end of this course, students should be equipped with the ability to critically think and make a judgment on relevant incidents and will be able to provide legal advises to the areas studied.	2	Elective Course	海洋法律研究所碩士班 Institute of the law of the sea	SDG1、SDG2、SDG2、SDG4、 SDG4、SDG10、SDG10、SDG12、 SDG12、SDG13、SDG13、 SDG14、SDG14、SDG15、 SDG16、SDG16、SDG17、SDG17
2022	Undergraduate	B0102C65	2	A	海洋政策	Ocean Policy	認識永續發展概念裡的海洋元素，瞭解國際與國內的海洋治理，探索海洋政策內涵，培養學生海洋事務的關注力，練習將公共政策知識領域的理論與技術，應用於海洋永續治理有關的公共議題，透過政策規劃，培養未來國家海洋政策之人才。	Students will learn about the ocean element in the concept of sustainable development, understand international and domestic ocean governance, explore the connotation of ocean policy, cultivate students' concern for ocean affairs, practice applying theories and techniques in the field of public policy knowledge to public issues related to the sustainable governance of the oceans and seas, and cultivate talents for future national ocean policy through policy planning.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG14
2022	Undergraduate	B0121T54	1	A	憲法	Constitutional Law	本課程將從憲政理論的角度，探討憲法在保障個人基本權利上所能發揮的功能及在民主制度中所能扮演的角色。本課程將引導學生自政治哲學與憲法學切入，探尋出近代民主政治所追求的價值，以作為憲法體制的引導；在掌握憲法基本架構下，檢視我國憲政運作現況，以認識憲法制度與人權保障的關係。	This course aims to investigate the constitutional function of protecting individual"""""s human rights and its role in a democratic political system from the perspectives of political philosophy and constitutionalism. The course will discuss values, theories and institutions of constitution law. Finally it will also research on correlation between constitutional institutions and protection of human rights.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG3、SDG4、SDG5、 SDG8、SDG10、SDG16
2022	Undergraduate	B012264K	2	A	行政法總論	Administrative Law: General Part	以講授方式說明行政法之基礎概念、基本原理及體系構造，在掌握現代行政活動之多樣面貌下，引導同學認識行政活動之諸行為形式及其類型化現況，輔以司法實務重要案例及其爭點檢討。	This course is designed to explain the basic concepts, principles and structure of administrative law, and to guide students to understand the forms of administrative activities and their typologies while grasping the diversity of modern administrative activities, supplemented by the review of important judicial cases and their controversies.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG5、SDG8、SDG10、 SDG11、SDG16
2022	Undergraduate	B0101CAS	1	A	海洋事務概論	Introduction to Marine Affairs	台灣四面環海，國家安全、經濟發展與民眾福祉都與海洋息息相關，近年來海洋的永續管理逐漸受到重視，本課程的目標，旨在呼應國內外情勢，提供學生對於海洋事務全盤的概念，包括國際間相關海洋管理法規、組織運作，以及國內的海巡政策、海洋保育、產業經營，著重理論與實務的結合，並激發學生思考、分析、討論的能力。	Taiwan is surrounded by sea, national security, economic development and people's well-being are all closely related to the sea, in recent years the sustainable management of the sea is gradually gaining importance, the objectives of this programme are designed to respond to the domestic and international situation, to provide students with a holistic concept of marine affairs, including the relevant international laws and regulations on marine management, organisational operations, and the domestic maritime patrol policy, marine conservation, and industrial operations, focusing on the combination of theory and practice, and to stimulate the students' ability to think, analyse, and discuss.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG3、SDG4、 SDG5、SDG6、SDG7、SDG8、 SDG9、SDG10、SDG11、SDG12、 SDG13、SDG14、SDG16、SDG17

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2022	Undergraduate	B0103Q5F	3	A	漁業法規	Fisheries Law	（1）統整本學程國際海洋法、海事行政法、行政法總論等課程知識，理解漁業法規之現況與課題。 （2）讓有志漁業行政、海洋環保、漁業產銷工作，以及進一步從事研究工作者熟稔專業詞彙與概念，並理解國內相關法制的發展背景與進程，為將來就業或升學做準備。	(1) To integrate the knowledge of international maritime law, maritime administrative law and general theory of administrative law in this course, and to understand the current status and issues of fisheries law and regulations. (2) To familiarize those who are interested in fisheries administration, marine environmental protection, fisheries production and marketing, and further research with professional terminology and concepts, and to understand the background and progress of the development of the relevant legal system in Taiwan, in preparation for future careers or further studies.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG3、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B01043BA	4	A	刑法與刑事訴訟法實例研習（一）	Case Studies in Criminal Law and Criminal Procedure Law (1)	本課程旨在協助同學活用日前於刑法總則、刑法分則課堂上所學習到的知識，透過相關刑事案例的演練，習得思考解決具體個案的方法。	The Purpose of this Course is to Help Students to Apply the Knowledge of Theories of Criminal Law by Case Study, and Get Familiar with the Methods to Solve Specific Cases.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16
2022	Undergraduate	B0104H6U	4	A	國際漁業管理	International Fishery Management	1. Integrate knowledge such as the law of the sea and fishery regulations, and the historical development of international fishery management. 2. Gain a broader understanding of fisheries administration and aquaculture management. 3. Strengthen narrative skills and in-depth topic analysis skills through short presentations.	1. Integrate knowledge such as the law of the sea and fishery regulations, and the historical development of international fishery management. 2. Gain a broader understanding of fisheries administration and aquaculture management. 3. Strengthen narrative skills and in-depth topic analysis skills through short presentations.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG3、SDG5、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B01024JE	2	A	海洋經濟學	Marine Economics	讓同學以經濟學的概念與方法，瞭解人類如何利用海洋的可再生資源（如漁業）等，有什麼樣的行為影響海洋環境以及其市場，以及如何從事合理的海洋生產、管理、運銷、貿易等經營行為。	Students can apply the concept and methods of economics to realise how do human beings utilise the marine renewable resources (eg. fisheries). What kind of behavior may influence the ocean environment and market? How do people engage in reasonable ocean production, management, marketing, trade, and other business behavior?	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG2、SDG3、SDG8、SDG12、SDG13、SDG14
2022	Undergraduate	B011264K	2	A	行政法總論	Administrative Law: General Part	以講授方式說明行政法之基礎概念、基本原理及體系構造，在掌握現代行政活動之多樣面貌下，引導同學認識行政活動之諸行為形式及其類型化現況，輔以司法實務重要案例及其爭點檢討。	This course is designed to explain the basic concepts, principles and structure of administrative law, and to guide students to understand the forms of administrative activities and their typologies while grasping the diversity of modern administrative activities, supplemented by the review of important judicial cases and their controversies.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG4、SDG5、SDG6、SDG10
2022	Undergraduate	B0102D58	2	A	海域執法	Law Enforcement on the Sea	本課程旨在指導同學明白海域執法的基礎知識	Teaching Students to Understand the Basic Knowledge of Maritime Law Enforcement	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG8、SDG11、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B01032GZ	3	A	犯罪偵查	Crime Investigation	本課程旨在指導同學明白犯罪偵查的基礎知識	Teaching Students to Understand the Basic Knowledge of Criminal Investigation	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16
2022	Undergraduate	B01032X3	3	A	海上保險法	Marine Insurance Law	我國海險市場居於國際商業習慣，慣用由英國保險商業團體擬製，以英格蘭法為準據法的定型化契約條款，因此，本課程目標: 一、讓學生明瞭英國制定法、判例法以及實務定型化約款三者間之關聯及作用。 二、學生應能明確區分英國法、我國法與實務條款之異同。 三、當遭遇相關議題，學生應能有獨立研究之能力，進而提出解決方案。	As it is customary in international business for the marine insurance market in China to use the English law as the basis for the stereotypical contractual terms drawn up by the UK insurance business community, the objectives of this course are to: 1. To enable students to understand the relationship and role of English statute law, case law and practical stereotyped contract terms. 2. Students should be able to distinguish the differences and similarities between English law, Chinese law and practical terms. 3. Students should be able to conduct independent research and propose solutions when encountering relevant issues.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG8、SDG9、SDG11、SDG17
2022	Undergraduate	B0103C0A	3	A	海事行政法	Maritime Administration Law	本課程的主要目的是帶領學生系統地學習海事行政法的基礎，同時熟悉相關國際規範及我國海事行政現行法規，讓有志於海洋事務的學生能更為具體地掌握相關概念、原則及法源依據。	The main objective of this course is to guide students to learn the basic theory of maritime administrative law, the related international norms, and the current laws and regulations of Taiwan. Throughout this course, students are expected to achieve a broad understanding of the concept, principle, and legal basis of maritime administrative law.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG8、SDG9、SDG12、SDG13、SDG14、SDG17
2022	Undergraduate	B01032VR	3	A	法學英文(三)	Legal English(III)	Building on Legal English I and II, this course aims to provide an opportunity to put in practice various techniques and skills concerning the use of the English language in a legal context. The course focuses on detailed understanding of selected cases and practical writing skills for resumes, contracts and case comments.	Building on Legal English I and II, this course aims to provide an opportunity to put in practice various techniques and skills concerning the use of the English language in a legal context. The course focuses on detailed understanding of selected cases and practical writing skills for resumes, contracts and case comments.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG5、SDG10、SDG16
2022	Undergraduate	B01034O1	3	A	智慧財產與公平交易法案例研習(一)	Cases of IP laws and Fair Trade Act (I)	協助同學了解智財法律(包括專利、商標、著作權、營業秘密)的規定與衍生的智財法律問題。	This course will equip students with the knowledge of major IP laws and learn the legal issues arise facing the technological advancement.	1	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG3、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG16、SDG17
2022	Undergraduate	B01111RW	1	A	刑法總則	Criminal Law: General Part	本課程旨在指導同學明白刑法總則的基礎知識及協助同學獨立閱讀相關教科書。	This programme aims at guiding students to understand the basics of the General Principles of Criminal Law and assisting them to read the relevant textbooks independently.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B01121S0	2	A	民法物權	Civil Law: Property	旨在讓學生理解民法物權編(民法第757條至第966條)規定之內容及規範目的，並建立民法物權編之體系架構。除講述基本理論外，透過例題演練以瞭解物權編與民法其他編的關係，並加深民法案例之實際運用，進而提升獨立思考及解決問題之能力。	The objective of this course is to help students grasp solid concept of the rights in rem of civil code regulations. This class will also focus on various civil code case studies as well as intra-class discussions on related hypo exercise.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG10、SDG16
2022	Undergraduate	B011264K	2	A	行政法總論	Administrative Law: General Part	以講授方式說明行政法之基礎概念、基本原理及體系構造，在掌握現代行政活動之多樣面貌下，引導同學認識行政活動之諸行為形式及其類型化現況，輔以司法實務重要案例及其爭點檢討。	Lectures on the basic concepts, principles and structures of administrative law. Students will be guided to understand the theories and current judicial practices.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG4、SDG5、SDG6、SDG10
2022	Undergraduate	B0102D58	2	A	海域執法	Law Enforcement on the Sea	本課程教授海域執法相關理論與國內外具體實踐。課程中除介紹海域執法的國際規範框架及背景外，將引導修習者理解我國之法規、因應措施及相關爭議問題等。此外，本課程將從實務觀點出發，協助學生發展政策法制化的實務技能。	This course introduces the theories of law enforcement at sea and the relevant practices, including domestic and international aspects. In addition to guiding the international regulatory framework and the background, the course will guide students to understand Taiwan"s laws and regulations, policy response, and relevant disputes. Students will also develop analytical and practical skills for drafting the legislative plan.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG8、SDG11、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B01032GZ	3	A	犯罪偵查	Crime Investigation	本課程旨在指導同學明白犯罪偵查的基礎知識	This programme aims to provide students with an understanding of the fundamentals of crime investigation.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16
2022	Undergraduate	B01043B9	4	A	航運產業實習	Shipping Business Practice	1. 為使學生認識航運產業實務運作，將理論與實作結合。 2. 實習單位: 長榮海運股份有限公司和台北市海運承攬商業同業公會所屬會員公司	1. In order to enable students to understand the practical operation of the shipping industry, the theory and practice will be combined. 2. Internship units: Evergreen Marine Corp. and member companies of Taipei Marine Carriers Association.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG4、SDG8、SDG9、SDG10、SDG11、SDG14、SDG16
2022	Undergraduate	B01122H1	2	A	行政法總論	Administrative Law: General Part	以講授方式說明行政法之基礎概念、基本原理及體系構造，在掌握現代行政活動之多樣面貌下，引導同學認識行政活動之諸行為形式及其類型化現況，輔以司法實務重要案例及其爭點檢討。	Lectures on the basic concepts, principles and structures of administrative law. Students will be guided to understand the theories and current judicial practices.	3	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG4、SDG5、SDG6、SDG10
2022	Undergraduate	B010128W	1	A	政治學	Political Science	本課程為大學部基礎課程，首要目的在於介紹政治學之基本概念，但是並不以此為限。除了抽象概念外，選取現實政治之事件及現象為例，幫助學習者深入認識政治學，並期待學習者能嘗試運用獨立思維觀察並評價政治相關議題。	This undergraduate level course introduces the basic concept of political science. This course also selects the case and phenomenon of real politics for helping students to achieve a broad understanding of political science. The aim of the course is to make students to observe and to assess political issues with independent thinking.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG10、SDG11、SDG13、SDG16、SDG17
2022	Undergraduate	B0101NNX	1	A	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	無	none	0	Service Learning Program	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG5、SDG6、SDG10
2022	Undergraduate	B01022H0	2	A	法學日文（一）	Japanese for Law Students (1)	本課程將透過對日文基本結構與句法之解說提升修課學生之法學日文讀解能力。	This course will enhance the students' ability to read and understand French through the explanation of the basic structure and syntax of the Japanese language.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG17
2022	Undergraduate	B01034NZ	3	A	智慧財產與公平交易法(一)	IP laws and Fair Trade Act (I)	協助同學了解智財法律(包括專利、商標、著作權、營業秘密)的規定與衍生的智財法律問題	This course will equip students with the knowledge of major IP laws and learn the legal issues arise facing the technological advancement.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG3、SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG16、SDG17
2022	Undergraduate	B0103D08	3	A	海商法	Maritime Law	一、學生應能明瞭並認知我國海商法與相關國際公約、慣例或外國法例之關係，以及國際海商法發展趨 勢。 二、學生應能正確陳述我國現行海商法之相關規定、基礎理論與實務或學說爭議。 三、當學生遭遇相關之事實陳述，應有能力確認該事實所引起之法律爭議，陳述相關法規與原則，並解 釋該法規與原則何以能適用於該事實，進而解決該法律爭議。	Students should be able to understand and recognise the relationship between maritime law in China and relevant international conventions, conventions or foreign laws, as well as the development trend of international maritime law. Students are expected to be able to correctly state the relevant provisions of the current maritime law of China, the basic theories and practices, or the doctrinal controversies. When encountering a statement of fact, students should be able to identify the legal disputes arising from that fact, state the relevant statutes and principles, and explain how those statutes and principles can be applied to that fact, and then resolve the legal disputes.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG4、SDG8、SDG9、SDG11、SDG16
2022	Undergraduate	B01043BA	4	A	刑法與刑事訴訟法實例研習（一）	Case Studies in Criminal Law and Criminal Procedure Law (1)	本課程旨在協助同學活用日前於刑法總則、刑法分則課堂上所學習到的知識，透過相關刑事案例的演練，習得思考解決具體個案的方法。	This programme aims to help students to apply what they have learnt from the General Principles of Criminal Law and the Sub-Principles of Criminal Law in the past few days, and to learn how to think of solutions to specific cases through the practice of relevant criminal cases.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16
2022	Undergraduate	B01043LE	4	A	海洋產業實習	Practice in Marine Industry	1. 為使學生認識海洋產業實務運作，將理論與實作結合。 2. 實習單位: 交通部航港局。	1. In order to enable students to understand the practical operation of the maritime industry, and to combine theory and practice. 2. Internship unit: Ministry of Transport, Ports and Harbours Bureau.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG4、SDG8、SDG9、SDG10、SDG11、SDG14、SDG16
2022	Undergraduate	B011253A	2	A	刑法分則	Criminal Laws: Special Part	本課程旨在指導同學明白刑法分則的基礎知識及協助同學獨立閱讀相關教科書籍。	This programme aims at guiding students to understand the basics of the sub-sections of criminal law and assisting them to read relevant textbooks independently.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B0103H70	3	A	國際海洋法	International Law of the Sea	本課程之主要目標在於協助修習者體系地理解國際海洋法，內容將側重國家作為海洋法之執行機關與全球治理之關係。分就「海洋空間的法秩序」及「國際共通利益之實現」兩大部分作介紹，其中輔以具體判例，幫助修習者理解海洋法之核心概念與新近發展。	The main goal of this course is to assist students in understanding the law of the sea systematically. The content will focus on the relationship between the state as the law enforcement body of the law of the sea and global governance. This course is supplemented by relevant judicial precedents to help students understand the core concepts and the current development of the law of the sea.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B01131RV	3	A	刑事訴訟法	Criminal Procedure Law	本課程旨在指導同學明白刑事訴訟法的基礎知識及協助同學獨立閱讀相關參考書籍、期刊論文。	This course is designed to guide students to understand the basics of criminal procedure law and to assist them in reading relevant reference books and journal articles independently.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16
2022	Undergraduate	B01013YV	1	A	海洋法政產學巡禮	The Introduction to Ocean Law and Policy	透過海洋法政相關公私機構之參訪，使學生對於本學士學程畢業後出路的可能性有所了解，一方面幫助有明確目標的學生訂定修課和學習上的計畫，另一方面也幫助尚未有目標的學生探索未來發展的可能性，培養對學士學程相關領域的基礎認識，逐步形成畢業後就業的規劃。	Through visits to public and private organisations related to the Ocean Law and Politics, students are able to gain an understanding of the possibilities for their future after graduation from this Bachelor's Degree Programme. On the one hand, this will help students who have a clear goal to set up a plan for their studies and learning, and on the other hand, it will also help those who don't have a goal yet to explore the possibilities for their future development, to cultivate a basic understanding of the relevant fields of the Bachelor's Degree Programme, and to gradually formulate a plan for their future employment after graduation.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG10、SDG16
2022	Undergraduate	B0101806	1	A	法學緒論	Introduction to Jurisprudence	本課程希望透過教師授課、報告及討論的方式，引導學生接觸法律基本概念並進而作好未來進一步學習各法領域知識之準備。課程中除就法律之意義、解釋及適用等一般性議題作介紹外，也將探討法律之學習、我國法律制度及法律與社會生活相關之面向。除講授和課堂討論外，也將透過報告的方式，讓修課學生能活用所學並訓練蒐整資料及傳達資訊之技巧。	Through lectures, presentations and discussions, this programme aims to introduce students to the basic concepts of law and to prepare them for further studies in various areas of law. In addition to general topics such as the meaning, interpretation, and application of law, the course will also explore the study of law, the legal system in China, and the relevance of law to social life. In addition to lectures and classroom discussions, students will also be trained to apply what they have learnt through presentations and to acquire skills in data collection and information dissemination.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG10、SDG16
2022	Undergraduate	B01122H2	2	A	民法債編總論	Civil Law: General Part of Obligations	旨在讓學生理解債法總論(民法第153條至第344條)規定之內容及其規範目的，並建立債法總論之體系架構。除講述基本理論外，透過例題演練以瞭解債法總論與民法其他編的關係，並加深民法案例之實際運用，進而提升獨立思考及解決問題之能力。	The objective of this course is to help students grasp solid concept of the general principles of Civil Code: Obligations regulations. This class will also focus on various Civil Code: Obligations case studies as well as intra-class discussions on related hypo exercise.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG10、SDG16
2022	Undergraduate	B0102808	2	A	法學英文(一)	Legal English (I)	本課程將介紹在法律領域使用英文之相關原則和技巧，也希望奠定未來進一步以英文學習法律之基礎，課程中將透過教師講授、實作及意見回饋等方式，讓學生有機會接觸聽說讀寫各面向之學習。	This course aims to provide an overview of the principles, techniques, and skills concerning the use of the English language in a legal context and build the foundation for advanced legal learning in English. Students will be provided with the opportunities to approach the various aspects of the essential skills, reading, writing, listening and speaking, through lectures, exercises, and individual feedback.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG16
2022	Undergraduate	B0111T54	1	A	憲法	Constitutional Law	了解憲法的原理原則以及憲法各個構成部分的內容,違憲審查的操作透過大法官解釋以及各項學說的解說,按此,將課程分為三大部分:基本原則,基本權利以及國家組織,分別於上下學期講授。	The course is divided into three parts: principles, fundamental rights and state organization.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG10、SDG11
2022	Undergraduate	B01032VN	3	A	法學日文（三）	Japanese for Law Students (3)	(1)本系列課程將透過對日文基本結構與句法之解說提升修課學生之法學日文讀解能力，並適時提供時事材料，協助累積判讀訊息之初步經驗，俾利精進專業，進而有助於研究及論文之寫作。 (2)本學期「法學日文（三）」課程的主要目標在於讓同學精熟動詞運用，並透過新聞的導讀，熟悉日本的法政體系及社會現況。	(1) This series of courses will enhance the students' ability to read and understand the Japanese language by explaining the basic structure and syntax of the Japanese language, and provide timely current affairs materials to help students accumulate initial experience in reading and interpreting information, so as to facilitate their professional advancement, which in turn will help them in their research and thesis writing. (2) The main objective of the "Japanese for Law (3)" course in this semester is to enable students to become familiar with the use of verbs, and to become familiar with the Japanese legal system and the current social situation through the guided reading of news.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M04013YJ	1	A	世界海洋遺產政策與法律	World Heritage in the Sea and Law	《保護世界文化和自然遺產公約》（Convention Concerning the Protection of the World Cultural and Natural Heritage，CCPWCNH）旨在保護具有「傑出普遍價值」（outstanding universal value）的場址。雖然礙於國際政治現實，我國遲遲未能正式參與，但依CCPWCNH第12條規範，未列入世界遺產名冊的場址，如具傑出普遍價值，仍未被排除適用範疇，此有世界遺產委員會的實際執行案例可稽。此外，不論世界遺產委員會的實踐，抑或聯合國教育科學文化組織（United Nations Educational, Scientific and Cultural Organization）的研究報告，多支持擴大CCPWCNH適用範圍至國家主權所不及海域。職是，我國做為CCPWCNH的準適用國，仍應以未雨綢繆的正面心態，遴選具有傑出普遍價值的適格場址，並賡續推廣之，為奠定海洋立國基石而努力。 本課程由淺入深地從國際建制闡述至我國制度，冀望修習本課程的學生，得以從宏觀且務實的觀點理解世界海洋遺產。	The Convention Concerning the Protection of the World Cultural and Natural Heritage (CCPWCNH) aims to protect cultural and natural sites of outstanding universal value. Although Taiwan is unable to formally participate in the CCPWCNH, all sites of outstanding universal value are not excluded from the scope of the CCPWCNH. This is not only grounded in Article 12 of the CCPWCNH but also supported by empirical practices. In addition, the practices of the World Heritage Committee and the research projects sponsored by the United Nations Educational, Scientific and Cultural Organization show the expansion of the scope of CCPWCNH to the places extending seaward from the outer limit of the territorial sea. This course covers from the international to the Taiwan system step by step. It is hoped that the students who take this course will be able to understand the world marine heritage from a macro and pragmatic point of view.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG8、SDG11、SDG13、SDG14、SDG16、SDG17
2022	Master Program	M04023KF	2	A	國土安全與國境執法	Homeland Security and Law Enforcement at Border	本課程希望透過教師授課、報告及討論的方式，教授與國土安全及國境執法之相關理論及國內外規範及實踐。課程中除就基礎原則和規範架構作介紹外，將就與當代國際間及我國所面臨之重要挑戰進行更深入的分析。除講授和課堂討論外，也將透過課堂報告介紹的方式，讓修課學生能活用所學並訓練蒐整資料及傳達資訊之技巧。	This course aims to cover theories, international and domestic rules, and practice concerning homeland security and law enforcement at border. In addition to basic principles and normative frameworks, important challenges faced by the international community and Taiwan will also be addressed. While this course consists of lectures, accompanied with discussions, research presentations are also required in order to allow students to apply what they have learned and sharpen their skills of compiling research materials and delivering their findings.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG16
2022	Master Program	M04013YK	1	A	水下文化遺產政策與法律	Underwater Cultural Heritage, Policyand Law	自西元2001年《聯合國保護水下文化遺產公約》訂立以來，水下文化遺產保護所衍生的法律問題，業已引起越來越多國家的重視；而台灣本島歷經荷蘭、葡萄牙及西班牙等海權強國的殖民地統治，周遭水域向為古代海上交通輻輳的樞紐，迨至海權更迭後的日本和美國，亦頻繁通過包括台灣海峽在內的萬頃海域，自有許多水下文化遺產散落周遭海域。職是，長期以來自許海洋立國的台灣，不宜獨排眾外，洵有針對沉沒於前揭海域的水下文化遺產，採取適當保護措施的必要。本課程旨在積極協助此一基本國策，培育有心研習的薪薪學子，致使彼等了解保護水下文化遺產相關法規及其實踐，以收為國薦才之效。	Since the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage was adopted, the legal issues arising from the protection of underwater cultural heritage have been attracting increasing attention. The island of Taiwan has been ruled by many countries, such as Netherlands, Portugal, Japan, the United States and other sea powers states, and its surrounding waters contain important maritime traffic junctions. As a result, many underwater cultural heritage sites are scattered across large areas of the sea bed. Taiwan should take appropriate measures to protect underwater cultural heritage in its surrounding waters. While the protection of underwater cultural heritage is one of basic national marine policy in Taiwan, the lack of relevant specialists is believed to be a problem. This course is designed to provide the theoretical and practical knowledge regarding the protection of underwater cultural heritage in order to train more specialists to become experts in this	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG6、SDG11、SDG14、SDG16、SDG17
2022	Master Program	M04023YC	2	A	海洋環境保護法	Law of Marine Environment Protection	本課程希望透過教師授課、報告及討論的方式，教授海洋環境保護法各主題的理論、實踐及運用。課程中除介紹國際間的規範與體系外，將就我國國內法及相關實踐進行更深入的分析。除講授和課堂討論外，也將透過分組報告介紹的方式，讓修課學生能活用所學並訓練蒐整資料及傳達資訊之技巧。	This course introduces the theory, practice, and implementation of various aspects of marine environmental law, covering both international norms and regimes and domestic rules and practice in Taiwan. In addition to lectures and in-class discussions, students registered for this course are expected to learn through working on a specific research topic and delivering oral presentations and drafting a research paper.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG13、SDG14
2022	Master Program	M04013YL	1	A	原住民與海洋文化政策與法律	indigenous culture and the law of the sea	鑑於原住民議題既屬法學領域，亦屬政治哲學領域，本課程旨在兼顧二者，提供一面不一樣的視野，期能導引修業學生對於原住民法與政策的研討興趣，進而提升深度思辨能力，俾以汲取具體學習效果。	Aboriginal issues belong to both the field of law and political philosophy, and this course aims to provide relevant issues. It is expected to guide students' interest in research on aboriginal law and policy.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG10、SDG14、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M04013YA	1	A	國際漁業管理及合作	International Fisheries Management and Cooperation	1970年代世界各國紛紛擴張200浬經濟海域，使得公海面積大幅縮減，遠洋漁業作業空間亦相對受到限制。臺灣漁船遍及世界三大洋，在漁業資源保育及永續漁業經營的觀念下，國際漁業組織對公海漁業資源的管理更趨嚴格，我國遠洋漁業與各沿岸國及國際漁業組織之合作就更顯重要。本課程係以實際案例講授國際漁業合作的談判及策略，俾使學生能了解漁業永續經營之重要性。	In the 1970s, countries all over the world expanded their economic waters by 200 miles, resulting in a substantial reduction in the area of the high seas, and relatively limited space for offshore fisheries operations. Taiwan's fishing boats spread across the three oceans of the world. Under the concept of fishery resource conservation and sustainable fishery management, the International Fisheries Organization has become more stringent in the management of high seas fishery resources. The cooperation between my country's offshore fisheries and various coastal countries and international fisheries organizations is even more important. . This course teaches the negotiation and strategy of international fishery cooperation with actual cases, so that students can understand the importance of sustainable fishery management.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG4、SDG13、SDG14、SDG15
2022	Master Program	M04013YE	1	A	海洋行政法規	Marine administrative regulations	本課程的目的在於帶領學生系統地學習海洋行政法規的基礎，同時熟悉相關國際規範及我國現行法規，讓有志於海洋事務的學生能更為具體地掌握相關概念、原則及法源依據。本課程將訓練學生應用所學，撰寫法規修正說明與政策推動方案。	The purpose of the course is to guide students in understanding the laws and regulations of ocean administration. This course is designed to familiarize students with the current international and domestic framework. The students will understand related the concepts, principles, and the lawful basis of ocean administration. As a result of completing this course, students will be able to draft legislative plan for an issue or a policy campaign.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG9、SDG10、SDG11、SDG13、SDG14、SDG16、SDG17
2022	Master Program	M0401H65	1	A	國際公法	International Law	本課程希望透過教師授課、時事介紹、案例報告及討論等方式，教授國際公法各主題的理論、實踐及運用。課程中將針對國際法之法源、主體及部分國際法之分支作介紹，希望修課同學能經由聽講及討論過程中學習，並擴展其對國際法認識之深度及廣度。	This programme aims to teach the theory, practice and application of public international law through lectures, current events, case reports and discussions. The course will focus on the sources of international law, the main body of international law and some branches of international law, hoping that students can learn through the process of listening to lectures and discussions, and expand the depth and breadth of their understanding of international law.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG3、SDG5、SDG10、SDG13、SDG14、SDG16
2022	Master Program	M04014NR	1	A	海洋、科技與智財法律專題研究(I)	Oceanic Technologies and Intellectual Property Laws (I)	協助同學了解並學習海洋相關產業中的新興科技發展與應用、衍生的智財法律爭議與發展趨勢。	Facing challenges posed by the emerging oceanic technologies, this course is aimed at helping students explore the IP legal issues and potential legal strategies.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Master Program	M0401H70	1	A	國際海洋法	International Law of the Sea	本課程希望透過教師授課、報告及討論的方式，教授國際海洋法各主題的理論、實踐及運用。課程中除就國際海洋法之一般性議題作介紹外，將就與我國較密切相關子主題和我國實踐進行更深入的分析。除講授和課堂討論外，也將透過課堂報告介紹的方式，讓修課學生能活用所學並訓練蒐整資料及傳達資訊之技巧。	This course aims to teach the theory, practice and application of international law of the sea topics through lectures, presentations and discussions. In addition to an introduction to the general topics of international law of the sea, the course will also include more in-depth analyses of sub-topics that are more closely related to our country and our practice. In addition to lectures and classroom discussions, classroom presentations will also be used to enable students to apply what they have learnt and to develop skills in data collection and information dissemination.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG13、SDG14
2022	Master Program	M04024NT	1	A	國際智財法(I)	International IP laws (I)	協助同學了解國際智財條約的規定與全球化浪潮下衍生的智財法律問題。	This course will help students learn the major international IP treaties and explore the IP legal issues in the globalized world.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG8、SDG9、SDG11、SDG13、SDG16、SDG17
2022	Master Program	M04013YG	1	A	東海議題專題研究	Seminar on East China Sea Issues	從東海之海域劃界進而瞭解台灣主權地位	The objectives of this course are to understand the disputes in the East China Sea as well as perspectives on the area's demarcation.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG8、SDG10、SDG16
2022	Master Program	M0401C65	1	A	海洋政策	Ocean Policy	對於海洋政策的定義，迄今尚無權威性的說法。一般認為，舉凡和海洋事務有關的政策，均是。換句話說，海洋政策涵蓋範圍之寬廣，可能是所有學科之最。由於海洋政策涉及的領域橫跨文理，故在英國及美國，除法政科目外，海洋政策學程通常亦提供經濟學、管理學及海洋學的相關議題討論，藉以博采眾長，進而達到兼收並蓄的效果，合先敘明。 本課程定位為導論，希望能為學習者，盡可能地簡介海洋政策所涉及的各學科。除此之外，擬亦介紹我國海洋事務主管暨附屬機關、職掌，以及海洋政策面向暨其目標，俾為彼等後續修選具關聯性的其他專業課程，奠定穩固的基	Since marine policy generally applies to all affairs as far as marine activities are concerned, this course aims to provide an introduction to various disciplines involved in marine policy. In addition, it is also proposed to introduce Taiwan's marine administrative framework and policy objectives.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Master Program	M04014NP	1	A	海洋、文化與智財法律專題研究(I)	Ocean, Culture and Intellectual Property Laws	協助同學建立海洋文化歷史的基本概念，並深化相關智財法律爭議與發展趨勢的知識。	This course helps students to learn the basic history of oceanic cultures and focus on the relevant IP legal issues.	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG17
2022	Master Program	M0401804	1	A	法學方法論	The Legal Methodology	透過方法論與法理的講授，讓同學對法律有更全面的認識	Through the teaching of jurisprudence and method, let the students have a more comprehensive understanding of law	2	Elective Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG4、SDG10、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M04013Y8	1	A	國際談判實務	Case Studies in International Negotiations	國際間經常透過談判解決爭端，避免干戈，進而尋求達成協議讓相關各方可因此獲得保障，共享和平與繁榮。然而，在現實上國際間議題極為複雜，各國談判風格各異，核心利益及各項議題下的考量因素差距甚大，常常導致談判進展停滯不前，形成皆輸局面甚至危及國際和平。本課程將透過對談判案例的研討與分析，引導修習者認識國際談判的真實面貌。本年度將以國際法判例中的國際談判為研討主題。	To avoid wars, states often resolve disputes through negotiation and then seek to reach an agreement so that all parties concerned can ensure safety and share peace and prosperity. However, international issues are extremely complex, countries have different negotiation styles, and there are wide gaps in core interests and considerations under various issues. It often leads to stagnant negotiation progress, resulting in a no-win situation and even endangering international peace. This course will guide students to understand the true face of international negotiations through the study and analysis of negotiation cases. In 2021, the main topic is Negotiations in the Case Law of the International Court of Justice.	2	Required Course	海洋法政學士學位學程 bachelor degree of ocean law and policy	SDG2、SDG3、SDG10、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B77023XM	2	A	簡報技巧與儀態(二)	Presentation Skills and Etiquette Ⅱ	該課程為引導學生藉由簡報製作做為基礎概念延伸，並融入台風（stage manners）與儀態（Etiquette）之元素，使簡報技巧及肢體儀態相互融合。以期許學生進行各項簡報時，不僅在口語表達部份展現出豐富的簡報內容，並能運用得體的台風與儀態，展現出學生的自信心與多元創造力，並學習掌握簡報的製作精髓，經由內在邏輯思考及外在體態提升簡報技巧能力並達成以下目標： 1.提升人際溝通與口語表達判斷力：藉由課堂分享明瞭與人溝通及人際關係的口語表達適切性與基礎性，以增加簡報表達時說服力，並配合簡報的練習，養成學生有效溝通與表達之能力。 2.增加美姿美儀與台風能力：於課堂上規劃以個人上台報告及分享，並搭配美姿美儀訓練（服儀、手勢、站姿及坐姿…等），以訓練學生舞台上之膽量及穩健度。 3.提升學生個人禮儀及國際觀念：培養國際化之禮儀內涵，了解相敬如賓待人之道及正確運用國際禮儀相關規範。以了解不同國家、種族、宗教的國際禮儀相關事務，達到彼此尊重、和諧相處，以塑造個人之優質形象。 4.建立永續學習之習性：教導學生依實務需求，主動尋求知識與解決途徑，自我學習並嘗試具體實踐。	The programme is designed to guide students to extend the basic concepts of presentation production and to incorporate elements of stage manners and etiquette, so as to integrate presentation skills and body gestures with each other. In order to allow students to conduct various presentations, not only in the oral part of the presentation to show a rich content, and can use appropriate stage manners and etiquette, showing the students' self-confidence and diversified creativity, and learn to grasp the essence of the production of presentations, through internal logical thinking and external physical appearance to enhance the ability of presentation skills and to achieve the following goals: 1. Enhance interpersonal communication and oral expression judgement: through classroom sharing to understand the appropriateness of communication and interpersonal relationships and the basis of oral expression to increase the persuasive power of the presentation, and with the practice of the presentation, the development of students to effectively communicate and express the ability. 2. Increase the ability of beauty and elegance and the ability of stage presence: In the classroom, we plan to use individual on-stage presentations and sharing, and with the beauty and elegance training (dress, gestures, standing and sitting postures...etc.) to train students' courage and steadiness on the stage. 3. Enhance students' personal etiquette and international concepts: to cultivate international etiquette, to understand how to treat people with respect and to correctly apply international etiquette. In order to understand the international etiquette of different countries, races and religions, students will be able to respect each other and live in harmony, thus creating a quality image of themselves.	1	Elective Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG3、SDG4、SDG5、SDG8
2022	Undergraduate	B77033F6	3	A	創新與創業管理	Innovation Management and Entrepreneurship	本課程說明[創新創業教育] 其核心精神在激發學生的創新創業熱情與夢想，傳授學生創新創業的理論與知識，在於增強學生從事創新創業活動的實踐能力，與參訪校友公司。 採用「創意」思考、「創新」應用、「創業」實踐的系統化教學。介紹創意思考工具，引導同學創意思考，有助於創新實作學習。創意新視界單元：相關案例，激發創意創新思維。 提供課程相關內容的問題討論與分組實作，讓同學反思及培養團隊合作學習。	This course is Innovation and entrepreneurship education. Its core spirit is to stimulate students "enthusiasm and dreams of innovation and entrepreneurship, and to teach students the theory and knowledge of innovation and entrepreneurship, is to enhance students" practical ability in innovation and entrepreneurship activities. Visit alumni companies. Use systematic teaching of "creative" thinking, "innovative" application, and "entrepreneurship" practice. A number of creative thinking tools are introduced in the course to guide the student"s creative thinking, which is helpful for innovative practical learning. Creative New Vision Unit: with relevant cases in the text to stimulate creative and innovative thinking. Arrange discussion and grouping of related content issues for students to reflect on and cultivate teamwork.	3	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B7721M97	1	A	微積分	Calculus	本課程為一門一學年的課程，分成上下兩學期授課，授課對象為大學部大一學生。本課程旨在讓學生學習微分與積分的基本知識、培養列式、求解及解釋問題的應用能力，並介紹微積分的基本理論及其在商學、經濟學、社會科學的各種應用。	This course is a one-year programme divided into two semesters and is intended for first-year students of the University. The programme aims to provide students with a basic knowledge of differentiation and integration, to develop applied skills in formulating, solving and interpreting problems, and to introduce the basic theories of differentiation and integration and their applications in business, economics and social sciences.	2	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B77020ZC	2	A	人力資源管理	Human Resources Management	1.理解基本的人力資源管理主題與技能 2.人力資源管理理論與實務連結 3.經由課堂活動，練習人力資源管理的相關活動	1. understand the managerial/analytical tools for HRM activities 2. obtain the conceptual knowledge of HRM, and apply the knowledge in real world. 3. Develop soft skills through class activities	3	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4、SDG8
2022	Undergraduate	B7721N38	1	A	經濟學	Economics	本課程為兩個學期六個學分的經濟學原理第二學期總體經濟學課程；個體經濟學內容的講授主要以個別消費者及廠商的選擇決策為內容，總體經濟學則以整體經濟體系為考量，說明國民所得、失業、貨幣市場與國際金融等問題。上課的方式將以講授教材為主，本課程為基礎課程。 先修課程：無。	The course is designed for first-year undergraduate two-semester 6-credits economics class. This is the second semester and courses will focus on the topic of Macroeconomics. The material will provide a foundation of economics on National income, unemployment, Monetary market, and international economics. Pre course: none.	3	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG1、SDG3、SDG5、SDG8、SDG9、SDG10、SDG11、SDG12、SDG17
2022	Undergraduate	B77023XL	2	A	簡報技巧與儀態(一)	Presentation Skills and Etiquette Ⅰ	該課程為引導學生藉由前期構思（Content）、簡報製作（Design）及口語表達（Delivery）等簡報製作三大步驟做為基礎概念延伸，並融入台風（stage manners）與儀態（Etiquette）之元素，使簡報技巧及肢體儀態相互融合。以期許學生進行各項簡報時，不僅在口語表達部份展現出豐富的簡報內容，並能運用得體的台風與儀態，展現出學生的自信心與多元創造力，並學習掌握簡報的製作精髓，經由內在邏輯思考及外在體態提升簡報技巧能力並達成以下目標： 1.提升簡報製作撰寫能力：藉由課堂分享明瞭簡報內容結構性與基礎性，以增加簡報的說服力與影響力。 2.鍛鍊溝通與表達能力：藉由課堂討論與繳交書面報告，配合簡報的練習，養成學生有效溝通與表達之能力。 3.增加台風與儀態呈現力：於課堂上規劃以個人上台報告及分享，並搭配美姿美儀訓練（服儀、手勢、站姿及坐姿...等），以訓練學生舞台上之膽量及穩健度。 4.培育創新與實踐能力：激勵學生勇於創新並多方嘗試與驗證，完成每份簡報之呈現並累積成功經驗與自信心。 5.建立永續學習之習性：教導學生依實務需求，主動尋求知識與解決途徑，自我學習並嘗試具體實踐。	The course is designed to guide students to extend the basic concepts of presentation production through the three major steps of pre-conceptualisation (Content), presentation production (Design) and oral presentation (Delivery), and to integrate elements of stage manners and etiquette, so as to make the presentation skills and body gestures integrated with each other. In order to allow students to make presentations, they will not only be able to demonstrate rich content in the oral part of the presentation, but also be able to use appropriate stage manners and etiquette to show students' self-confidence and creativity, and learn to master the essence of presentation production, improve presentation skills through internal logical thinking and external posture and achieve the following goals: 1. Enhance the ability to produce and write presentations: through classroom sharing to understand the structure and fundamentals of the content of the presentation, in order to increase the persuasive power and influence of the presentation. 2. Practicing communication and expression skills: Through classroom discussions and written reports, students will develop the ability to communicate and express themselves effectively through the practice of presentations. 3. Enhance stage presence and presentation skills: In the classroom, we plan to use individual on-stage presentations and sharing, along with posture training (dress, hand gestures, standing and sitting postures, etc.) to train students' courage and stability on stage. 4. Cultivate innovation and practical ability: Encourage students to be creative and try and verify, complete each presentation and accumulate successful experience and self-confidence.	1	Elective Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4
2022	Undergraduate	B7712J40	2	A	統計學	Statistics	本課程旨在講述統計分析方法，也就是講述資料的蒐集、整理、分析、解釋、決策等方法。有關資料收集整理的方法謂之敘述統計；有關分析解釋的方法謂之推論統計，最後做成決策。期望學生有統計的基礎概念以及在實務上有專業知識的運用能力。	ries of statistical analysis method. The methods of collecting, summarizing, analyzing, presenting, and interpreting data will also be included. The concepts, theories, and methods of collecting, summarizing data are called Descriptive Statistics. The concepts, theories, and methods of analyzing, presenting, and interpreting data are called Inferential Statistics. Students are expected to learn the basic concept of statistics and have ability of applying statistical analysis in practice.	3	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4
2022	Undergraduate	B7711992	1	A	計算機概論	Introduction to Computer Structure	本課程主要是讓學生對於電子計算機軟硬體建立基本知識，其主要講述電腦概論、作業系統、網際網路、軟體工程、資訊系統、資料庫等主題。學生可對電子計算機具備基礎認識並可進行相關應用。	This programme is designed to enable students to build up a basic knowledge of computer hardware and software. It focuses on topics such as Introduction to Computing, Operating Systems, Internet, Software Engineering, Information Systems, Databases, etc. Students will be able to develop a basic understanding of computers and their applications. Students will be able to develop a basic understanding of computers and their applications.	2	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG9
2022	Undergraduate	B77020ZB	2	A	財務管理	Financial Management	本課程旨在說明財務管理之概念、理論及操作技術，透過對於國內外新興公司理財技術之瞭解，詳實之技術分析與實例演練，達到理論與實務結合之效，俾培養企業財務管理基礎人材，且學生可由財務管理的基本理論如風險與報酬、投資組合及資金成本中，建構個人及家庭理財的基本概念。	The objective of this course is to explain the concept, theory and technique of corporate finance. With fully understanding of newly developed financial management technique for local and international corporate, students may work for general enter-prises when they graduated. Furthermore, the topics such as risk management, investment portfolio and the cost of capital may construct a basic concept of financial planning for individual person and family.	3	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4

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2022	Undergraduate	B7711M97	1	A	微積分	Calculus	本課程為一門一學年的課程，分成上下兩學期授課，授課對象為大學部大一學生。本課程旨在讓學生學習微分與積分的基本知識、培養列式、求解及解釋問題的應用能力，並介紹微積分的基本理論及其在商學、經濟學、社會科學的各種應用。	This course is a one-year programme divided into two semesters and is intended for first-year students of the University. The programme aims to provide students with a basic knowledge of differentiation and integration, to develop applied skills in formulating, solving and interpreting problems, and to introduce the basic theories of differentiation and integration and their applications in business, economics and social sciences.	2	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4
2022	Undergraduate	B7713NA7	3	A	海洋經營管理專題(一)	Seminar in Ocean Business Management Ⅰ	本課程為一學年之專題課程，目標旨在讓學生整合及應用經營管理基礎理論課程之訓練，並與各專長領域之指導老師進行專題報告討論，輔以相關研究論文的研讀與探究，以培養學生發掘及解決問題能力、資料收集及分析能力、團隊合作與溝通協調能力、以及論文撰寫及簡報技巧能力。	This is a one-year course. The aim of this course is to allow students to integrate and apply the basic theory of business management training, and to discuss academic studies with the instructors in related areas, supplemented by the study and exploration of related research papers. Furthermore, this course will develop students" skills of problem discovering and solving, data collection and analysis, teamwork and communication, as well as essay writing and presentation.	2	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4
2022	Undergraduate	B770424H	4	A	企業實習(一)	Internship Ⅰ	使學生能從做中學,體會自己在專業知識及人際應對的不足	To enable students to learn by doing, and to realise the inadequacy of their professional knowledge and interpersonal skills.	9	Elective Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4
2022	Undergraduate	B77020ZC	2	A	人力資源管理	Human Resources Management	1.人資相關知識建立：熟悉每一個人資活動的內容、重要名詞，可以用自己的話，說明及解釋人力資源管理課本中的重要觀念。 2.瞭解人資常識名詞：瞭解該名詞的內容，知道其發展趨勢以及大家爭論或關注的焦點。	1. Establishment of knowledge related to Human Resources Management (Familiar with the content and important practices of Human Resources Management functions, and can use your own words to explain the important concepts in Human Resources Management textbooks). 2. Understand Human Resources Management terms/concept introduced in textbook: understand the content of the term, know its development trend and the focus of concern.	3	Elective Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4、SDG8
2022	Undergraduate	B7703Q94	3	A	管理資訊系統	Management Information Systems	人工智慧、物聯網、大數據、金融科技、區塊鏈等許多新IT科技進入了商業市場，從傳統的工業革命到現在各行各業都要和資訊整合，傳統產業必須要面臨新世代技術的挑戰進行轉型。同學應如何善加利用這些技術為一重要議題。 有鑑於此，本課程之教學目標包括： (1) 學習管理資訊系統各學派之重要論述。 (2) 學習管理資訊系統應用IT之發展。 (3) 學習管理資訊系統之規劃與軟硬體環境。 (4) 實務分析與設計。	Artificial intelligence, Internet of Things, big data, financial technology, blockchain and many other new IT technologies have entered the business market. From the traditional industrial revolution to the integration of information in all industries, traditional industries must face the challenges of the new generation of technology to transform. How to make the best use of these technologies is an important issue for students. In view of this, the teaching objectives of this programme include: (1) To learn the key theories of various schools of thought on MIS. (2) To learn about the development of IT applications for management information systems. (3) Learning management information systems planning and hardware and software environments. (4) Practical analysis and design.	3	Required Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG9
2022	Undergraduate	B7702NNX	2	A	服務學習_愛校服務(Ⅰ)	Service-Learning Program-Campus Service(I)	培養學生對學校校園清潔之維護,以及對學校師生之服務情操及胸懷,進而擴大至社會及國家服務之情操	This course is major to cultivate the maintaining and service spirit in campus, and then extend the service sentiment toward to society and country.	0	Service Learning Program	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG3、SDG4
2022	Undergraduate	B77044CX	4	A	短期實習(三)	Short Term Internship Ⅲ	使學生將課堂所學應用職場實務	To enable students to apply what they have learnt in the classroom to the workplace.	2	Elective Course	海洋經營管理學士學位學程 bachelor degree program in ocean business management	SDG4
2022	PH.D Program	D090129L	1	A	原生生物學(一)	Protozoe(I)	本課程在建立學生對原生生物的基本觀念及知識並討論原生生物與環境的關係，同時結合國際期刊的閱讀和討論，訓練學生的思考和表達能力。	This course provides comprehensive concepts and knowledge of protistology and discusses its relationship with environments. Scientific articles are going to be read and discussed for the training of independent thinking and presentation.	3	Elective Course	海洋資源與環境變遷博士學位學程 Doctoral Degree Program in Ocean Resource and Environmental Changes	SDG4、SDG14、SDG15
2022	PH.D Program	D09013OK	1	A	海洋夜光蟲專題研究	Case Study in Marine Noctiluca scintillans	本課程提供學生夜光蟲生態相關的基本觀念和知識，目標在讓學生了解藍眼淚的形成與分布的機制及其在食物鏈上的地位。同時結合國際期刊的閱讀和討論，訓練學生的思考和表達能力。	For understanding the formation and distribution of Noctiluca scintillans (blue tear) as well as its roles in the microbial food web, comprehensive concepts and knowledge of the ecology of N. scintillans are going to be provided in this course. Scientific articles are going to be read and discussed for the training of independent thinking and presentation.	3	Elective Course	海洋資源與環境變遷博士學位學程 Doctoral Degree Program in Ocean Resource and Environmental Changes	SDG4、SDG9、SDG11、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B810492M	4	A	洋流觀測分析	Ocean Current Observation and Analysis	全球暖化的氣候議題越來越普遍化，但是，根據NOAA的說法，我們人類目前對海洋的探索謹有5%，對洋流的了解更是有限，尤其是藏在海洋深處且主宰地球長期氣候變化的“溫鹽環流”。因此課程的教學目標，除了讓學生得到洋流觀測的基本知識與分析技術外，希望能透過視覺化的方法，讓學生親眼看到抽像的洋流，提升學生對洋流議題的興趣和好奇，以便將來繼續研究並探討與洋流相關的新自然科學議題。	The climate issue of global warming is becoming more and more common. However, according to NOAA, only 5% of the oceans have been explored by human beings, and our understanding of ocean currents is even more limited, especially the "thermohaline circulation", which is hidden in the depths of the oceans and is the dominant factor in the long-term climate change of the earth. Therefore, the teaching objectives of the course are not only to provide students with the basic knowledge and analysis techniques of ocean current observation, but also to let students see the abstract ocean currents through visualisation methods, so as to enhance their interest and curiosity in ocean currents, and to enable them to continue to study and explore new natural science issues related to ocean currents in the future.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG13、SDG14
2022	Undergraduate	B8122T84	2	A	機率與統計	Probability and Statistics	介紹基本機率與統計原理。	Introduces basic probability and statistical principles.	2	Required Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG13
2022	Undergraduate	B81041AW	4	A	海岸開發與保育	Coastal Development and Conservation	學生透過課程會了解近年海岸開發與保育的新趨勢，乃以近自然工法的方式達到親水、景觀及生態環境共存的理想。在本課程中，學生們會學習到海岸變遷的要因與影響。	Students will learn about the new trend in coastal development and conservation in recent years, which is the use of near-natural methods to achieve the coexistence of hydrophilic, scenic and ecological environments. In this programme, students will learn the key factors and impacts of coastal change.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG11、SDG14
2022	Undergraduate	B8104122	4	A	沙塵暴專題	Special Topic on Sandstorm	瞭解沙塵暴的形成機制及影響範圍，並可完成沙塵暴相關議題的專題報告。	Understanding the mechanism of sandstorm and the recent researches in sandstorm	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG3、SDG11、SDG12、SDG13、SDG15、SDG17
2022	Undergraduate	B81041BO	4	A	全球生地化學專題	Special Topic on Biogeochemical Cycle	認識全球生物地球化學循環過程,讓學生了解各種海洋營養鹽在全球環境中的循環過程是本課程的目標.	Understanding global biogeochemical cycling processes and providing students with an understanding of the cycling of various marine nutrient salts in the global environment are the objectives of this programme.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG13
2022	Undergraduate	B810103B	1	A	海洋氣象	Marine Meteorology	介紹氣象學的基本理論與觀測實務，並進而了解一般天氣與海象預報的作業。	To introduce the basic concepts and theories of marine meteorology. This lecture will also introduce the practical observation and application of meteorology.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG11、SDG13、SDG14、SDG17
2022	Undergraduate	B81032UN	3	A	IDL程式語言: 遙測資料處理	IDL Programming Language: remote sensing data processing	IDL（Interactive Data Language）在醫學和遙測方面已是廣泛應用的互動式程式語言，其計算和繪圖功能，可協助科學家和工程師處理複雜的工作需求。本課將講解IDL的基本程式語法和設計。教學目標是讓學生在完成此課程之修習後，具備有利用IDL進行遙測資料分析與繪圖的能力。	understanding the fundamentals of the IDL（Interactive Data Language）language and programming for remote sensing data processing	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG9、SDG17
2022	Undergraduate	B81032XC	3	A	Julia 程式語言設計	Julia Language Programming	Julia程式語言是近幾年科學界和工程界的新程式語言，與Matlab相似，但Julia程式語言是開放式原始碼(open source)，全免費安裝和使用，計算效率比較快，還可以使用網頁瀏覽器學習撰寫Julia程式，因此引進新的Julia程式語言授課。	The Julia Language is a new programming language used by engineers and scientists. It"s syntax is similar to Matlab"s, but it is an open source that we can freely use. Moreover, it is faster, and we can just writing the Julia Language via some internet browsers.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG13、SDG17
2022	Undergraduate	B810391Q	3	A	洋流學	Ocean Current	使學生從海洋基本物理的靜態性質中，感受動態的海洋如何與之共舞，從而廣泛接觸洋流的基礎知識，但內容以敘述性為主，淺顯易懂，理論性及計算性的內容僅淺介即止。所學內容為洋流觀測、洋流學實驗、洋流資料處理及分析、洋流理論等進階課程的基礎知識。	Students can learn to understand how ocean current/circulation is formed under the effect of earth rotation.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG4、SDG13、SDG14
2022	Undergraduate	B8112086	2	A	工程數學	Engineering Mathematics	認識一, 二, 三階常微分方程解法, 數列級數，以及拉卜拉斯轉換等微分方程解法的基本概念.	Understand the basic concepts of solving ordinary differential equations of the first, second, and third order, series series hierarchy, and solutions of differential equations with Labras transformations.	3	Required Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG4
2022	Undergraduate	B8112T84	2	A	機率與統計	Probability and Statistics	介紹基本機率與統計原理，並訓練用電腦作統計分析以加深對原理的瞭解。	Introduces the basic principles of probability and statistics, and provides training in statistical analyses using a computer to deepen the understanding of the principles.	2	Required Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG17
2022	Undergraduate	B8102V75	2	A	離散數學	Discrete Mathematics	This is an introductory course in Discrete Mathematics oriented toward Engineering and Computer Science. The course divides roughly into the following parts: 1.Fundamental Concepts of Mathematics: Logic and Proofs 2.Basic Structures: Sets, Functions, Sequences, and Sums 3.Fundamentals: Algorithms, Integers, and Matrices 4.Induction and Recursion 5.Relations 6.Discrete Probability Theory 7.Trees (optional)	This is an introductory course in Discrete Mathematics oriented toward Engineering and Computer Science. The course divides roughly into the following parts: 1.Fundamental Concepts of Mathematics: Logic and Proofs 2.Basic Structures: Sets, Functions, Sequences, and Sums 3.Fundamentals: Algorithms, Integers, and Matrices 4.Induction and Recursion 5.Relations 6.Discrete Probability Theory 7.Trees (optional) 8.Graphs (optional) We will concentrate on the first five parts.	3	Elective Course	海洋環境資訊系 Department of Marine Environmental Informatics	SDG3、SDG4、SDG5、SDG8、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D810131W	1	A	Julia程式語言之應用:數值方法	Julia Language Application on Numerical Methods	Julia程式語言是近年科學界和工程界的新程式語言，與Matlab非常接近，但Julia程式語言是屬於開放式原始碼(open source)，全免費使用，計算效率也比較快，因此引進Julia程式語言在本課講授。希望授課後的學生，除了加強數值方法的基本知識外，也能學到國外最新程式語言的技術，建立起撰寫程式的基本能力，以便將來在各領域繼續使用和進階學習。	Julia programming language is a new programming language in science and engineering in recent years, and it is very close to Matlab, but Julia programming language is open source, free to use, and the efficiency of computation is also relatively fast, so Julia programming language is introduced in this class. It is hoped that students will not only strengthen the basic knowledge of numerical methods, but also learn the latest foreign programming language techniques, and establish the basic ability to write programmes, so that they can continue to use it in the future in various fields and for advanced learning.	3	Elective Course	海洋環境資訊系博士班 Department of Marine Environmental Informatics	SDG4、SDG13
2022	PH.D Program	D810105L	1	A	大氣遙測	Atmospheric Remote Sensing	瞭解大氣參數的遙測原理	Understanding the principle of atmospheric remote sensing	3	Elective Course	海洋環境資訊系博士班 Department of Marine Environmental Informatics	SDG9、SDG13、SDG17
2022	PH.D Program	D81010GP	1	A	海洋環境模式	Marine Environmental Modeling	認識大氣與海洋化學物質的交互作用及模式概念是本課程的目標.	The concept of understanding the interactions and modelling of atmospheric and marine chemicals is the objective of this course.	3	Elective Course	海洋環境資訊系博士班 Department of Marine Environmental Informatics	SDG14
2022	PH.D Program	D81012XF	1	A	邊緣海域洋流	Ocean Currents in Marginal Seas	讓研究生對邊緣海域的洋流有初步的概念，並了解目前的邊緣海域洋流的研究進度，提升研究生在相關學術演討會的理解能力。	To enable postgraduate students to have a preliminary concept of ocean currents in marginal seas and to understand the current progress of research on ocean currents in marginal seas, and to enhance postgraduate students' understanding of relevant academic seminars.	3	Elective Course	海洋環境資訊系博士班 Department of Marine Environmental Informatics	SDG13、SDG14
2022	PH.D Program	D81011NX	1	A	環境遙測專論	Special Topic on Environmental Remote Sensing	應用衛星遙測探討海洋環境現象及議題	Discussing phenomena of oceanic Environment using satellite remote sensing	3	Elective Course	海洋環境資訊系博士班 Department of Marine Environmental Informatics	SDG13、SDG17
2022	Contiuning Education Master Degree Program	T4E01919	1	A	洋流學	Ocean Currents	使學生從海洋基本物理的靜態性質中，感受動態的海洋如何與之共舞，從而廣泛接觸洋流的基礎知識，但內容以敘述性為主，淺顯易懂，理論性及計算性的內容僅淺介即止。所學內容為洋流觀測、洋流學實驗、洋流資料處理及分析、洋流理論等進階課程的基礎知識。	This course is designed to provide students with a broad exposure to the fundamentals of ocean currents by enabling them to experience how the dynamic ocean dances with the static nature of the basic physics of the oceans. However, the content is mainly descriptive and easy to understand, and the theoretical and computational content is only briefly introduced. The content of the course is based on the basic knowledge of ocean current observation, ocean current experiment, ocean current data processing and analysis, ocean current theory and other advanced courses.	2	Elective Course	海洋環境資訊系碩士在職專班 Department of Marine Environmental Informatics	SDG13、SDG14
2022	Contiuning Education Master Degree Program	T4E0187K	1	A	海洋環境資料處理	Processing of Marine Environmental Data	本課程介紹海洋環境相關資料之應用軟體（包括 Excel，以及 Matlab）與實做，。Excel 課程部分包括Excel基本操作、數列與級數、數據表格、圖表；以及 Matlab課程部分包括Matlab基本語法、資料輸入與輸出、統計分析、繪圖.	This course introduces the application software (including Excel and Matlab) and practical work on marine environment related data. The Excel course includes basic Excel operations, columns and levels, data tables, and charts; and the Matlab course includes basic Matlab syntax, data input and output, statistical analysis, and graphing.	2	Elective Course	海洋環境資訊系碩士在職專班 Department of Marine Environmental Informatics	SDG14
2022	Master Program	M8101UD1	1	A	環境資料分析	Environmental Data Analysis	讓學生了解資料分析的基本方法	To enable students to understand the basic methods of data analysis	2	Required Course	海洋環境資訊系碩士在職專班 Department of Marine Environmental Informatics	SDG13
2022	Master Program	M8301C6D	1	A	海洋生物地球化學與生態系統整合研究(一)	Integrated Marine Biogeochemistry and Ecosystem Research(I)	本課程是與本校環漁系、海生所、生技所老師共同開課，目標是讓修課學生能瞭解國內在海洋生物地球化學與生態系統整合研究之研究現況。	This course is jointly offered with teachers from the Department of Environment and Fisheries, the Institute of Marine Biology, and the Institute of Biotechnology of the University of California, Berkeley. The goal of this course is to enable the students to understand the current state of marine biogeochemistry and the integration of ecosystems in the country.	2	Elective Course	海洋環境與生態研究所碩士班 Institute of Marine Environment and Ecology	SDG4、SDG13、SDG14
2022	Master Program	M83013I7	1	A	海洋溫室氣體與氣候變遷	Oceanic greenhouse gases and climate change	本課程的目標，在提供學生對於海洋溫室氣體與氣候變遷的基本觀念和知識，並討論氣候變遷對海洋的影響，同時結合國際期刊的閱讀和討論，激發學生思考、分析、討論和表達。	This course provides comprehensive knowledge and important concepts on oceanic greenhouse gases and climate change. This course also discuss how the climate change influence the ocean and the interaction between them. By combining the scientific articles reading and discussions, it can inspire students to think, analyze and discuss the data as well as present their ideas	3	Elective Course	海洋環境與生態研究所碩士班 Institute of Marine Environment and Ecology	SDG13、SDG14
2022	Master Program	M83013OK	1	A	海洋夜光蟲專題研究	Case Study in Marine Noctiluca Scintillans	本課程提供學生夜光蟲生態相關的基本觀念和知識，目標在讓學生了解藍眼淚的形成與分布的機制及其在食物鏈上的地位。同時結合國際期刊的閱讀和討論，訓練學生的思考和表達能力。	For understanding the formation and distribution of Noctiluca scintillans (blue tear) as well as its roles in the microbial food web, comprehensive concepts and knowledge of the ecology of N. scintillans are going to be provided in this course. Scientific articles are going to be read and discussed for the training of independent thinking and presentation.	3	Elective Course	海洋環境與生態研究所碩士班 Institute of Marine Environment and Ecology	SDG4、SDG9、SDG11、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M83014G9	1	A	海洋一氧化二氮濃度與分布專題研究	Nitrous oxide concentrations and distributions in the seawater	本課程的目標，在提供學生對於海洋中一氧化二氮生成的基本觀念和知識，以建立學生對海洋中一氧化二氮濃度與分布的認識，同時結合國際期刊的閱讀和討論，激發學生思考、分析、討論和表達。	This course provides comprehensive knowledge and important concepts on oceanic nitrous oxide production. By reading scientific articles, inspires students to think, analyze and discuss the data as well as present their ideas. This training aims to enhance the students' knowledge about nitrous oxide concentrations and distributions in the seawater.	3	Elective Course	海洋環境與生態研究所碩士班 Institute of Marine Environment and Ecology	SDG13、SDG14
2022	Undergraduate	B760226B	2	A	郵輪航行安全	Navigation Safety for Cruises	1.使學生研讀海難相關論文 2.使學生了解船舶航行管理之重要性 3.使學生思考如何管理船舶航行	1.Enable students to study papers related to casualties. 2.Enable students to understand the importance of navigation management for cruises. 3.Enable students to think about how to manage the navigation safety of cruises.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG14
2022	Undergraduate	B76023C6	2	A	觀光市場調查與分析	Tourism Market Research and Analysis	本課程的目標: 1.幫助同學了解觀光行銷的理論知識及相關的實務議題。 2.幫助學生了解市場調查的概念、重要性及常用的研究方法。 3.培養學生應用市場調查的方法分析與解決觀光行銷問題的能力。	Course Objectives: 1.To give students an overview of fundamental knowledge of tourism marketing and related practical issues. 2.To help students understand the concept of marketing research and its significance and methods commonly used. 3.To provide students skills essential to analyze and solve the problems of tourism marketing via using the methods of marketing research.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG1、SDG4、SDG9、SDG11、SDG12、SDG17
2022	Undergraduate	B7601N38	1	A	經濟學	Economics	本課程介紹經濟學相關理論，讓同學瞭解經濟學 (包含個體經濟學與總體經濟學)的概要。藉著本課程，讓同學把理論與實務彼此之間結合後應用於日常生活與未來工作，並可應用於觀光領域。 請見TRONCLASS最新版大綱。隨時因應防疫準則調整授課方式，例如遠距教學。	After completing the course, students will have deeper understanding and capabilities of economics and their economy, help them learn about practice of different forms of knowledge and techniques in tourism industry and jobs.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG1、SDG3、SDG4、SDG8、SDG9、SDG10、SDG12、SDG13、SDG16
2022	Undergraduate	B7602CAG	2	A	海洋休閒管理	Ocean Recreation and Management	本課程規劃目標為建構海洋休閒管理之概念與原則，透過瞭解海洋休閒管理、規劃原則、吸引力創造與管理策略等學理，並輔以課堂個案討論與海洋休閒活動體驗與戶外教學與的實務經驗，以達運用海洋休閒規劃管理與經營理論與實務結合。	This course is designed to construct the concepts and principles of marine leisure management. Through understanding the theories of marine leisure management, planning principles, attraction creation and management strategies, and supplemented with classroom case studies, marine leisure activity experiences and outdoor teaching and practical experiences, we will be able to apply the theories of marine leisure planning, management and operation in conjunction with practical experience.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG14
2022	Undergraduate	B76023B6	2	A	旅行社經營實務	Travel Agency: Practice and Operations	課程著重於實務與理論的結合，同時注重旅行業專才的培訓，提高學習者對專業的興趣，並體現作者等實務經驗累積的智慧，內容廣泛，立論觀點多元化，是一門新的學術領域。	The course focuses on the combination of practice and theory, and at the same time focuses on the training of professionals in the travel industry, to increase learners" interest in the profession, and reflect the wisdom accumulated by the author and other practical experience. It has a wide range of content and diversified opinions. It is a new academic field. .	2	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG11、SDG12
2022	Undergraduate	B760336U	3	A	觀光目的地行銷與管理	Destination Marketing and Management	本課程焦點於了解目的地行銷如何被規劃、執行與評估，目的地的管理組織單位在面對全球化的休閒觀光旅遊市場下，如何經營且尋找機會面對挑戰。	This course focuses on how destination marketing is planned, implemented and evaluated as well as the management and operations of destination marketing and management organizations, how they conduct business, and the major opportunities, challenges and issues they face to compete for the global leisure and business travel markets.	2	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG11、SDG12
2022	Undergraduate	B7601TU0	1	A	海洋觀光遊憩概論	An Introduction to Marine Tourism and Recreation	1.認知部分： 使學生明瞭海洋觀光理論內涵、實務、觀光導遊理論與解說技巧和方法，以及基隆在地之觀光現況與發展等概論與發展現況，以理解學術和產官界實務之互動和競爭力關係，建立觀光理論與實務基本知能。 2.情意部分： 藉由觀光理論與實務結合之學習，使學生能夠將知識與社會問題連結，並由親身參與在地服務，養成其具有「民主」與「倫理」、「美學」之公民素養與能力與知能，期使未來將所學發揮並影響社會，建構海洋永續觀光理念之社會。 3.技能部分： 使學生能熟捻觀光導覽、規劃與實務等專業知能，達成應用於觀光產業，並具備活用區域資源、多元文化與生活之能力，進而提升我國觀光遊憩之質量水準和競爭力；透過「課程講授」、「產學講座」、「校外參訪」、「業界場域服務學習」、「旅程規劃實習」、等課程設計，達成產官學界互動、師生教學相長學習成效，增進學生處理觀光事務問題之解決能力，而達成觀光理論與實務結合目標。	1. Cognitive part: To enable students to understand the connotation and practice of marine tourism theory, tourism guide theory and interpretation skills,and Keelung"s local tourism status and development.To understand the interaction and competitive relationship between academia and industry-government practice,and build basic knowledge of tourism theory and practice. 2. The affection part: Through the combination of tourism theory and practice, students can connect knowledge and social issues,and participating in local services by personally.Cultivate their civic qualities, abilities and knowledge of "democracy", "ethics", and "aesthetics".Hope students can use of what you have learned and influence the society, and build a society with the concept of sustainable ocean tourism. 3. Skill part: To enable students to be familiar with professional knowledge such as sightseeing guidance, planning and practice.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG11

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B76033NH	3	A	餐旅管理	Hospitality Management	餐旅管理在觀光產業扮演舉足輕重的角色，為使學生對餐旅業有基礎的了解甚至熟悉未來從事餐旅業的工作內容，本課程主要目標為介紹學生餐旅管理及實務的基本認識。並經由各種教學方式下，達成下列目標： -了解餐旅事業與觀光事業的關係 -熟悉旅館飯店內各部門的工作執掌與專業技術 -認識會展產業與特殊活動管理 -具備餐旅管理的基本經營與管理技術	Hospitality management plays an essential role in the tourism industry. Enable students to have a basic understanding of the hospitality industry and even be familiar with the content of their future work in the hospitality industry. The main objective of this course is to introduce students to the basics of hospitality management and practice and to achieve the goal down below: - Understand what is "hospitality management" - Learning the relationship between hospitality and tourism - Familiar with the work and professional technology of various departments in the hotel - Possess the basic operation and management skills of catering management	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG11、SDG12
2022	Undergraduate	B760120E	1	A	觀光學	Tourism	By the completion of the subject, the student should be able to: - Explain the definition of tourism and describe the growth of the tourism industry; - Identify the tourist-product relationship and various tourist demands; - Understand the nature of tourism service suppliers; - Address the importance of sustainability to the development of the tourism industry; - Discuss the current issues and future development in the tourism industry.	By the completion of the subject, the student should be able to: - Explain the definition of tourism and describe the growth of the tourism industry; - Identify the tourist-product relationship and various tourist demands; - Understand the nature of tourism service suppliers; - Address the importance of sustainability to the development of the tourism industry; - Discuss the current issues and future development in the tourism industry.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG10、SDG11
2022	Undergraduate	B7601CAS	1	A	海洋事務概論	Introduction to Marine Affairs	海洋事務是一門跨領域的學門，台灣四面環海，海洋與國家發展及對外關係息息相關。再者，海洋事務具高度涉外的特性，國內海洋政策與法律的制定與執行，與全球海洋治理架構密不可分。因此，培養學生瞭解海洋事務之內涵、範疇和實踐顯得格外重要。本課程主要的目標如下： 1. 瞭解國際與國內對於海洋政策與海洋治理之內涵與實踐。 2. 培養海洋領域事務管理之專業素養和國際視野。 3. 掌握海洋環境永續發展所需之態度、知識、原則與管理策略。	Marine affairs is an inter-disciplinary field. Taiwan is surrounded by the ocean and the national development, identity building and foreign affairs are influenced by the sea. The formulation and implementation of domestic marine policy and laws are tied with global marine governance. With this in mind, it is important to encourage students to understand the meanings, categories and practices of marine affairs. The main objectives of this course are as follows. 1. Students will understand the field of marine affairs in general. 2. This course will develop students with the capacity and international perspectives in the management of the sea. 3. Students will be able to grasp the appropriate attitude and principles, workable knowledge and management strategies to contribute to sustainable development of marine environments.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG11、SDG16、SDG17
2022	Undergraduate	B7601N8U	1	A	運輸學	Transportation	1.讓學生瞭解交通運輸之意義、行政組織、特性及各種運輸方式及其系統內涵。 2.激發學生在學習過程中探討運輸經營之策略，藉以達到理論與實務相結合。	1.To encourage students to understand the characteristics of transport, and various modes of transport. 2.To stimulate students in learning how to explore transport management strategy, in order to achieve the combination of theory and practice.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG11
2022	Undergraduate	B76020ZB	2	A	財務管理	Financial Management	1.為將來欲學習財務領域的學子，引導學習方向。 2.讓學生瞭解企業經營管理中，所必須涉及的財務知識。 3.教導學生進行投資理財時，所必須具備的基本技能與常識。	The purpose of this course is to provide students with an overview of financial management. After the course, students would be able to have a better understanding of the following. 1.Definition of financial management fields 2.Significance of financial management for non-finance students and professionals 3.Important concepts and skills in financial management and investment.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG8
2022	Undergraduate	B7603NP8	3	A	電子商務	E-Commerce	讓學生熟悉電子商務的發展現況與趨勢，除了以個案教學方式說明世界重要的電子商務公司外，並補充大數據分析與人工智慧在未來電子商務的應用。	Explain the development status and trends of e-commerce, in addition to illustrating the world"s important e-commerce companies through case teaching, and supplement the application of big data analysis and artificial intelligence in future e-commerce.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG1、SDG4、SDG7、SDG9、SDG10、SDG12、SDG17
2022	Undergraduate	B76023B6	2	A	旅行社經營實務	Travel Agency: Practice and Operations	觀光產業為一綜合性產業，其所應用的領域廣泛觸及許多不同的事業體，包括交通運輸業、旅館業、遊憩業、餐飲業、旅行業...等。而旅遊產品的形成，需藉由旅行業者將各項旅遊要素加以組合、行銷，此一組合與行銷的工作正是旅行社所擔任的角色。本課程主要目標為： - 了解旅遊產品之設計 - 認識旅遊產品行銷的過程 - 學習旅遊行程實務操作	Tourism industry is comprehensive, and its application is widely involved in many different business entities, including transportation, hotel, recreation, catering, travel, etc. The role of travel agencies is to combine various tourism elements and plan marketing campaigns in the tourism industry. The main objectives of this course are: - Understanding the design of tourism product - Knowing the marketing process of tourism product - Learning the practical practice of itinerary	2	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG11、SDG12

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7602J40	2	A	統計學	Statistics	New 20220620 for 16+2 weeks: 16週新課程進度依照本學期統計學一學期課程修正。協助學生學習統計的基本原理和觀念，並輔以實例使學生瞭解統計在社會科學等領域之應用。詳細內容請見Tronclass。 111學年度起依學校規定已改為每學期16+2週，課程若有未教完部分，則以錄製影片，或讓大家觀看影片撰寫心得學習。 中文授課。	New 20220620 for 16+2 weeks: 16 weeks of new course progression based on the current semester's Statistics one-semester course revision. It helps students to learn the basic principles and concepts of statistics and to understand the application of statistics in social sciences with practical examples. Please refer to Tronclass for details. Starting from the 111th school year, this course has been changed to 16+2 weeks per semester in accordance with school regulations. If there is any part of the course that has not been taught, it will be taught by video recording or by letting everyone watch the video and write their own ideas. Classes are conducted in Chinese.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG3、SDG4、SDG8、SDG12
2022	Undergraduate	B7603E7X	3	A	航空客運與票務	Air Transport and Ticketing	1. 引導幫助學生學習全球航空客運票務服務之操作性定義及產業現況趨勢。 2. 輔導學生熟習航空票務相關知識技能，以備考取航空基礎定位系統證照。	1. Offer current information on airline sales, promotion, booking, pricing, and ticketing practices, and the effect of technology in the workplace. 2. Counselling students to familiarize with air ticketing related knowledge and skills in preparation for obtaining an air ticketing CRS certificate.	2	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4
2022	Undergraduate	B7603ZJV	3	A	觀光行政與法規	Administration and Regulation of Tourism	觀光行政與法規涵蓋政策制定、執行到落實等不同階段，面對時代、市場需求和環境的變遷亦有所調整。透過綜觀地介紹觀光相關的制度與法規，探討觀光政策如何促進觀光產業以及如何影響其發展趨勢。課程主要的目標如下： 1. 瞭解觀光行政、法規與政策之基本概念與法理原則。 2. 掌握觀光政策與相關法規之現況與發展趨勢。 3. 培養學生具有觀光行政與管理的能力與基本的法律素養。	This course will introduce related policies and laws in tourism and the logic of policy-making and implementation in order to see how tourism policies facilitate tourism industry and its developmental trend. The main objectives of this course are as follows. 1. Students will understand the basic logic and concepts in tourism administration, policies, and laws. 2. Students will get current situation and developmental trend of tourism policies and laws. 3. This course will equip students with the capacity of tourism administration and management and legal literacy.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG8、SDG11、SDG12
2022	Undergraduate	B76044LH	4	A	海岸社區總體營造	Coastal Community Empowerment	本課程介紹海岸社區總體營造主要從社會經濟與社會創新的脈絡切入。有別於資本主義式的經濟，社會經濟強調的是考量社群、環境和社區的倫理決策。因此，近年來全球各地許多社區和社群採取社會經濟之概念和實踐作為回應全球資本主義種種挑戰的重要思考和可行的解方。社會經濟的思維和實踐也替台灣的社區營造相關的論述和實踐帶來嶄新的視角重新去思考和行動。加上近年來青年留鄉和返鄉、大學社會責任和地方創生政策的推動下，也替社區營造帶來新的契機和活力。本課程的目標如下： 1. 基本掌握社會經濟國內外相關理論的討論和實踐案例。 2. 培養學生應用社會經濟相關概念、田野調查和實作方法，將想法轉換成具體可操作的方案之能力。 3. 鼓勵學生以團隊合作的方式設計和執行方案，培養所需的溝通和合作的能力。	This course will introduce coastal community empowerment from the perspective of social economy and social innovation. Different from capitalist economy, social economy emphasizes on ethical decision in consideration of other people, engaged communities, and environment. Therefore, social economy can be an alternative way in responding challenges out of global capitalism and bring new insights of sustaninable development in Taiwan. 1. Students will understand the theories and practices of social economy from the global perspective and current Taiwan. 2. This course will provide students with cases and methods to do field work and turn their investigation into workable projects in responding to common needs or problems. 3. This course encourages students to design and run the project by teamwork in order to facilitate the capability of cooperation and communication.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG8、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Undergraduate	B76023C6	2	A	觀光市場調查與分析	Tourism Market Research and Analysis	本課程的目標: 1.幫助同學了解觀光行銷的理論知識及相關的實務議題。 2.幫助學生了解市場調查的概念、重要性及常用的研究方法。 3.培養學生應用市場調查的方法分析與解決觀光行銷問題的能力。	Course Objectives: 1.To give students an overview of fundamental knowledge of tourism marketing and related practical issues. 2.To help students understand the concept of marketing research and its significance and methods commonly used. 3.To provide students skills essential to analyze and solve the problems of tourism marketing via using the methods of marketing research.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG1、SDG4、SDG9、SDG11、SDG12、SDG17
2022	Undergraduate	B76030ZC	3	A	人力資源管理	Human Resources Management	1.人力資源管理與發展理論與實務 2.使學生瞭解組織策略目標如何藉 由人力資源之規劃與發展,得以順利 完成	1.Human resource management theories and development. 2.Understanding how the goals of organization be achieved by the Human Resource planning and developing.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4
2022	Undergraduate	B7602TUF	2	A	旅運經營學	Tourism and Transport Managemant	1.使學生瞭解旅行業的業務內容及從業人員所應具備之相關技能. 2.瞭解旅行社之產品,內部作業,領隊與導遊實務. 3.瞭解旅行業未來發展之趨勢.	This course is the introduction to the services provided in the travel industry. The marketing strategies and ethic issue in the travel business will be discussed in class. Technical terms and the Global reservation system will also be introduced to students. The participants are expected to equip the basic skills for the travel business.	3	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG11

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2022	Undergraduate	B76042PI	4	A	郵輪實務	The Practice of Cruising	1. 闡述國際遊輪經營管理及實務經驗。 2. 增進對遊輪產業及廣大產業鏈認知。 3. 瞭解國際遊輪市場潛力，擴大國際觀，提升學員對此蓬勃發展產業的興趣，啟發未來發展方向並增加工作的更多選項。	1. Introduction of international cruise operations, management and business in practices. 2. Advanced knowledge of cruise industry and possible related chains. 3. In deeper understanding on the potential of international cruise market, with attraction and motivation for job opportunities and options in this industry.	3	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG8、SDG9、SDG17
2022	Undergraduate	B7601ZA0	1	A	企業概論	Introduction to Business Management	企業概論課程的主要目的，是想讓同學瞭解資本主義體制下，最重要的經濟組織如何運作。課程內容大致上分成三個重點 1.與企業直接關聯的經營環境。只有洞悉環境變化，才能找出潛在的機會，避免可能的風險。 2.企業是什麼？從概念介紹，到具體的企業組織，企業不是抽象的名詞 3.企業有哪些重要的功能？依序介紹：生產與作業、行銷、人資、資訊、財務等。	The purpose of this course is to give students an understanding of how the most important economic organizations work under the capitalist system. The course content is roughly divided into three key points 1. The business environment directly related to the enterprise. Only by understanding environmental changes can we identify potential opportunities and avoid possible risks. 2. What is a business? Introduction from concept to specific enterprise organization. 3. What are the essential functions of the enterprise? Introduce in order: production and operation, marketing, human resources, information, finance, etc.	2	Required Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG4、SDG12
2022	Undergraduate	B76021NB	2	A	人員安全與社會責任	Personnel Safety and Social Responsibility	公共安全、工業安全、以及應急體系等在二十世紀末期成為熱門課題。不幸的是經過多次慘痛教訓與考驗，這些課題多半仍停留在討論與觀望階段而未能充分落實。身為輪機人員，不僅工作環境與性質迫使自身安全隨時面對考驗，對於大眾生命財產的安全及環境品質的維護亦有其應盡之責。 本課程依一九七八年航海人員訓練、發證及當值標準(STCW)國際公約一九九五年修正案要求開設，總期程十六小時。除為符合公約要求，並期能藉此課程養成同學對於維護個人安全與在工作崗位上善盡社會責任，所需具備的職能與觀念。	Public safety, industrial safety, and emergency response systems became hot topics in the late twentieth century. Unfortunately, after many painful lessons and tests, most of these topics are still in the stage of discussion and wait-and-see and have not been fully implemented. As a cruise ship staff, not only the working environment and their own safety force to face challenges at any time, but also have their due responsibilities for the safety of public life and property and the maintenance of environmental quality. This course is offered in accordance with the 1995 Amendment to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, with a total duration of 16 hours. In addition to complying with the requirements of the Convention, this course is expected to develop the functions and concepts that students need to maintain personal safety and fulfill their social responsibilities at work.	2	Elective Course	海洋觀光管理學士學位學程 Bachelor Degree Program in Ocean Tourism Management	SDG17
2022	Undergraduate	B7302I01	2	A	國際貿易實務	Practices of International Trade	本課程旨在介紹國際貿易作業程序及訓練實務技術,協助完成基層航運管理人才之培養	This course aims to introduce the international trade operation procedures and training practical skills to help complete the training of shipping management personnel at the basic level.	3	Required Course	航運管理學系 Department of Shipping and Transportation Management	SDG8、SDG17
2022	Undergraduate	B7303I08	3	A	國際運銷學	Global Logistics Management	本課程主要目的是讓學生深入瞭解國際物流管理基本知識及其未來發展。	The aim of the course is to provide students with a basic understanding of the international logistics management and its future development.	2	Required Course	航運管理學系 Department of Shipping and Transportation Management	SDG12
2022	Undergraduate	B73031AO	3	A	國際航空貨運實務	Practice of International Air Cargo Service	讓同學了解國際航空貨運實務運作，引導對國際航空貨運的了解和興趣，培養航空物流人才。	The design of this course is aimed to educate and develop the interest of the students in international airfreight operations and market. After completing this course the students will learn the basic knowledge and skill of airfreight globally.	3	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG4、SDG7、SDG9、SDG14、SDG17
2022	Undergraduate	B7303L90	3	A	供應鏈管理	Supply Chain Management	在供應鏈整合程度日異擴大與觀念演進快速的今日，本課程除在廣度上讓學生知曉供應鏈的基礎概念與演進外，並介紹供應鏈各項主要作業與相關資訊技術與設備應用，藉由範圍的界定、供應鏈管理系統的了解、供應鏈管理應用的案例與執行，以建立起基礎的供應鏈管理架構、觀念以及基礎運作管理能力。	In today's world of expanding supply chain integration and rapid conceptual evolution, this course not only provides students with a broad understanding of the basic concepts and evolution of the supply chain, but also introduces the major supply chain operations and the related information technology and equipment applications. Through the definition of the scope, the understanding of supply chain management system, and the case studies of the application of supply chain management and implementation, students will be able to build up a basic supply chain management framework, concepts, and the basic operation and management skills.	3	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG1、SDG9、SDG11、SDG12、SDG13
2022	Undergraduate	B7302862	2	B	金融市場	Financial Market	此為財務金融領域的入門課程。 介紹金融市場的功能、工具與相關的金融機構。 內容包含金融市場的歷史發展與未來展望、貨幣機構及非貨幣機構、票券與債券市場、股票市場、外匯市場、期貨與選擇權市場、基金市場，與國際金融市場等之理論架構與實務議題。	This is an introductory course in the field of finance. It introduces the functions of financial markets, instruments and related financial institutions. It covers the theoretical framework and practical issues of the historical development and future outlook of financial markets, monetary and non-monetary institutions, the bond and equity markets, the stock market, the foreign exchange market, the futures and options markets, the fund market, and the international financial markets.	2	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG1、SDG2、SDG3、SDG4、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7311N24	1	C	會計學	Accounting	會計學是一門與日常生活息息相關的學科，也是作為企業幕僚應具備的技能。其目的在忠實提供正確有用的財務資訊給決策者，以幫助他們從事經濟性的決策。另對相關法規之修訂，及時解說與釋疑。使學生能擁有基本概念與思維，以便進入職場後在各管理階層均能發揮其所學。	Accounting is a subject that is relevant to everyday life and a skill that you should have as a business person. It aims to faithfully provide accurate and useful financial information to decision makers to help them make economic decisions. It also aims to provide timely explanations and clarifications on the amendments of relevant laws and regulations. Students will be equipped with the basic concepts and thinking that will enable them to utilise what they have learnt at all levels of management when they enter the workplace.	3	Required Course	航運管理學系 Department of Shipping and Transportation Management	SDG8、SDG9
2022	Undergraduate	B7302H54	2	A	商事法	Commercial Law	本課程定位為商事法基礎課程，旨在讓學生瞭解公司法及票據法的基本內容與規範。商事法通常包含公司法、海商法、票據法、保險法等，為符合系上授課之安排，本課程以講授公司法為主。課程規劃上，擬以學生自主學習相關活動輔佐課程講解，期盼透過自主學習活動達到：1、建立商事法基本概念；2、強調問題解決導向的學習行動；3、商事法知識的應用三個目標。	This course is positioned as a basic course in commercial law, aiming at enabling students to understand the basic contents and regulations of company law and bill of lading law. Commercial law usually includes company law, maritime law, bill of lading law, insurance law, etc. In order to conform to the department's teaching arrangement, this course mainly focuses on company law. The course plan is to supplement the course lectures with independent study activities in the hope that the independent study activities will achieve the following three goals: 1. to establish the basic concepts of commercial law; 2. to emphasise problem-solving oriented learning actions; and 3. to apply the knowledge of commercial law.	2	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG4、SDG16
2022	Undergraduate	B73030ZL	3	A	國際貨櫃運輸實務	International Container Transportation Practice	第一章 概論 第二章 新冠肺炎影響下的航運市場 第三章 貨櫃運輸運送人 第四章 航業與航線 第五章 貨櫃輪與貨櫃 第六章 貨櫃作業基地 第七章 海運提單 第八章 貨櫃運輸的運費與費用 第九章 航業的管理 第十章 貨物運輸風險與保險和貨損理賠 第十一章 特殊貨品運輸 第十二章 貨櫃航運展望	1. Introduction 2. The Container Shipping Market under Corona Virus Influence 3. The Container Shipping Carriers 4. The Shipping Industry and Ship Routing 5. The Container Ships and Containers 6. The Container Shipping Industry and Service Lines 7. The Ocean Bill of Lading 8. The Ocean Freight and Charges 9. The Administration of Shipping 10. The Risk of Cargo Transportation, Insurance and Cargo Claims 11. The Transportation of Special Cargo 12. The Future Prospect of Container Transportation	3	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG1、SDG2、SDG3、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B73040ZC	4	A	人力資源管理	Human Resources Management	本課程主要目的在介紹學生人力資源管理系統的設計理念,重要觀念,以及實務執行層面上的議題,研修本課程將有助於瞭解人力資源管理系統如何建立,以及人事部門在組之中的角色與所扮演的功能.	The main purpose of this course is to introduce students to the design concepts of human resource management systems, important concepts, and practical implementation level issues, the study of this course will help to understand how the human resource management system is established, as well as the role of the personnel department in the group and the functions played.	3	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG4、SDG8
2022	Undergraduate	B7302I01	2	B	國際貿易實務	Practices of International Trade	本課程主要從實務操作面解說國際貿易作業流程，引領學生跨入國際貿易領域。 授課內容包含：國際貿易簡介、貿易條件與最新版國貿條規(Incoterms2020)解說與運用、進口成本分析、詢價報價與承諾實務、信用狀單據解說及國貿英文練習等。希望學生修完課後能具備國貿實務操作能力。	This course explains the international trade process from a practical point of view, and guides students to enter the field of international trade. The content of the course includes: introduction to international trade, explanation and application of trade conditions and the latest version of Incoterms2020, analysis of import costs, quotation and commitment practices, explanation of letters of credit and practice of English in international trade. It is hoped that students will be able to acquire practical skills in international trade after completing the course.	3	Required Course	航運管理學系 Department of Shipping and Transportation Management	SDG1、SDG8、SDG12
2022	Undergraduate	B73034MT	3	A	貨櫃運輸作業實務案例研析	Container Transportation Operation Practice and Case Studies	瞭解貨櫃運輸(含船舶、卡車、鐵路)的作業方式(含陸橋運輸、微陸橋運輸、迷你陸橋運輸)，認識碼頭橋式機、門式機、跨載機、堆高機操作特性、藉由不同類型的事故案例(如公共安全、人力調配、新冠疫情因應策略、缺櫃)與糾紛來探究不同貨櫃運輸相關業者實務上應注意事項與具備的專業職能技術。	To understand the operation mode of container transport (including ships, trucks and railways) (including landbridge, micro-landbridge and mini-landbridge), to understand the operation characteristics of terminal bridge, portal, straddle and forklift trucks, and to explore the matters that should be paid attention to and the professional skills of the different container transport operators through different types of incident cases (e.g. public safety, manpower deployment, response strategy to the new coronary epidemic, shortage of containers) and disputes.	3	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7302I01	2	A	國際貿易實務	Practices of International Trade	本課程主要從實務操作面解說國際貿易作業流程，引領學生跨入國際貿易領域。 授課內容包含：國際貿易簡介、貿易條件與最新版國貿條規(Incoterms2020)解說與運用、進口成本分析、詢價報價與承諾實務、信用狀單據解說及國貿英文練習等。希望學生修完課後能具備國貿實務操作能力。	This course explains the international trade process from a practical point of view, and guides students to enter the field of international trade.The content of the course includes: introduction to international trade, explanation and application of the latest version of Incoterms2020, import cost analysis, quotation and commitment practice, explanation of letter of credit documents, and practice of English in international trade. It is hoped that students will be able to acquire practical skills in international trade after completing the course.	3	Required Course	航運管理學系 Department of Shipping and Transportation Management	SDG8、SDG17
2022	Undergraduate	B7303L92	3	B	港埠經營與管理	Port Administration and Management	課程內容包括港埠概念、港埠發展與成長、港埠競爭、港埠費率、港埠作業與管理、港埠案例分析。學生應能夠知道如何做港口的規劃開發評估、港灣及棧埠日常營運管理。	The content of this course includes concept of port, port development and growth, port competition, port tariff, port operation and management, port case study. Students should be able to know how to evaluate the port development projects and to be familiar with the daily operation/management issues in a modern port.	2	Required Course	航運管理學系 Department of Shipping and Transportation Management	SDG9
2022	Undergraduate	B73034MS	3	A	海運承攬業與船務代理經營實務	Shipping Forwarder and Shipping Agency Operation Practice	瞭解海運承攬運送業與船務代理業在國際貿易的角色，介紹船舶租傭經紀、艙位訂定、貨物裝載與提單運輸文件等進出口相關程序與要領(含報關、清關)，透過案例說明常見錯誤(運費計價錯誤、提單錯誤)與注意事項(貨損糾紛)。	Understand the roles of the ocean freight forwarding and shipping agency industries in international trade. Introduce the import/export related procedures and key points (including customs declaration and clearance) such as vessel chartering brokerage, booking of slots, cargo loading and bill of lading and transport documents, and illustrate the common mistakes (freight pricing errors, bill of lading errors) and cautions (cargo loss disputes) through case studies.	3	Elective Course	航運管理學系 Department of Shipping and Transportation Management	SDG8
2022	PH.D Program	D73010T7	1	A	綠色航運與物流專題研討	Seminars on Green Shipping ang Logistics	本課程主要目的是讓學生深入瞭解及探討綠色航運與物流的重要議題內容、經營業者實務採用之措施、以及探討該領域學術研究主題及未來研究之方向。	The aim of the course is to provide students with an advanced understanding and investigating the important issues on green shipping and logistics, the current green shipping and logistics practices, and the academic research themes and future study directions.	3	Elective Course	航運管理學系博士班 Department of Shipping and Transportation Management	SDG14
2022	PH.D Program	D7301E7U	1	A	航運作業管理專論	Advanced Topics in Shipping Operation Management	1.瞭解航運市場航線規劃與經營策略 2.瞭解港埠營運作業與管理策略 3.案例探討	1. to understand the shipping market, route planning and operation strategies 2. understand port operation and management strategies 3. Case studies	3	Elective Course	航運管理學系博士班 Department of Shipping and Transportation Management	SDG14
2022	PH.D Program	D730116R	1	A	公司理財專題	Special Topics in Corporate Finance	1.簡要回顧財務金融的核心觀點，包括風險與報酬之關係，貨幣的時間價值，市場效率，對沖套利，財務風險管理，代理問題，行為財務學等。 2.複習公司理財的理論與實務，包括資本預算、資本結構、資金成本、營運資金管理、股利政策。 3.深入探討公司理財重要議題：包括風險管理、公司治理、行為財務學、合併購併、財務危機管理等。	1.Briefly review the core concepts of finance, including the relationship between risk and return, the time value of money, market efficiency, hedging, arbitrage, financial risk management, agency problems, behavioral finance, etc. 2. Review the theory and practice of corporate finance decisions, including capital budgeting, capital structure, the cost of ccapital, working capital management, and dividend policy. 3. In-depth discussion of important topics of corporate finance, including financial risk management, corporate governance, behavioral finance, merger and aquisition, financial crisis management, etc.	3	Elective Course	航運管理學系博士班 Department of Shipping and Transportation Management	SDG1、SDG2、SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Bachelor Degree Program	E4G22J40	2	A	統計學	Statistics	本課程主要在於培養學生統計學之基本概念，以奠定學生對數據資料的歸納分析、綜合與判斷之能力；並期學生熟悉統計學常用之電腦套裝軟體，以能將各項技能靈活應用於後續相關課程及實務上。	This programme aims to develop students' basic concepts of statistics and their ability to generalise, analyse, synthesise and judge data. Students are expected to be familiar with computer software packages commonly used in statistics, so as to be able to apply their skills flexibly in subsequent related courses and practices.	3	Required Course	航運管理學系進修學士班物流管理組 Department of Shipping and Transportation Management	SDG4
2022	Contiuning Education Bachelor Degree	E4G03DMT	3	A	配送管理	Distribution management	本課程係以結合理論發展與實務應用為教學導向，以充實學生於物流配送專業研究領域之認知，並藉由講課及討論，讓學生對配送管理之理論有相當之瞭解。	This course is designed to combine theoretical development and practical application in order to enrich students' knowledge in the field of logistics and distribution, and to provide students with a good understanding of distribution management theories through lectures and discussions.	2	Required Course	航運管理學系進修學士班物流管理組 Department of Shipping and Transportation Management	SDG9
2022	Contiuning Education Bachelor Degree Program	E4G12J40	2	A	統計學	Statistics	本課程主要在於培養學生統計學之基本概念，以奠定學生對數據資料的歸納分析、綜合與判斷之能力；並期學生熟悉統計學常用之電腦套裝軟體，以能將各項技能靈活應用於後續相關課程及實務上。	This programme aims to develop students' basic concepts of statistics and their ability to generalise, analyse, synthesise and judge data. Students are expected to be familiar with computer software packages commonly used in statistics, so as to be able to apply their skills flexibly in subsequent related courses and practices.	3	Required Course	航運管理學系進修學士班物流管理組 Department of Shipping and Transportation Management	SDG4

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2022	Contiuning Education Bachelor Degree Program	E4112992	2	A	計算機概論	Introduction to Computer Science	學習計算機科學的基本理論課程，讓同學由認識電腦之軟硬體架構、系統基本運作方式、數字系統、數值邏輯、資料結構、演算法、常用套裝軟體與相關網路應用，以及電腦病毒和網路安全等，進而熟悉電腦的操作並與日常生活相結合，以奠定日後接觸資訊相關專業領域之基礎。	Learn the basic theoretical courses of computer science, so that students can understand the software and hardware architecture of computer, the basic operation mode of the system, digital system, numerical logic, data structure, algorithm, common software package and related network applications, as well as computer virus and network Road safety, etc., and then become familiar with computer operation and integrate it with daily life, so as to lay the foundation for future exposure to information-related professional fields.	2	Required Course	航運管理學系進修學士班航運管理組 Department of Shipping and Transportation Management	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Contiuning Education Bachelor Degree Program	E4103N77	3	A	運輸規劃	Transportation Planning	1. 探討運輸規劃之基本概念。 2. 學習運輸規劃課題之研究。 3. 透過實務案例培養同學具備運輸規劃師所應有的專業知能。	1. to explore the basic concepts of transport planning. 2. to study the study of transport planning issues. 2. to study the research of transport planning issues. 3. to develop the professional knowledge of transport planners through practical cases. 3. to develop students' professional knowledge as transport planners through practical cases.	2	Elective Course	航運管理學系進修學士班航運管理組 Department of Shipping and Transportation Management	SDG11
2022	Contiuning Education Bachelor Degree	E4S03AI0	3	A	人工智慧	Artificial Intelligence	介紹人工智慧之基本概念,包括專家系統,類神經網路,模糊系統,基因演算法等基本原理及應用.	Introduces the basic concepts of artificial intelligence, including expert systems, neural networks, fuzzy systems, genetic algorithms and other basic principles and applications.	4	Elective Course	航運管理學系進修學士班資訊管理組 Department of Shipping and Transportation Management	SDG9
2022	Contiuning Education Bachelor Degree Program	E4S23661	3	A	作業研究	Operation Research	(1)學習線性規劃運用延伸類型(包含運輸問題、指派問題，整數規劃概念介紹)。 (2)學習作業研究網路系統(包含最短路徑問題、最小展開樹、最大流量問題、CPM跟PERT)。 (3)賽局理論與決策理論介紹(單一策略及混策略模型、風險及不確定性決策)	(1) To study the extended types of linear planning applications (including transport problems, assignment problems, and introduction to integer planning concepts). (2) Learning operation research network system (including shortest path problem, minimum spreading tree, maximum flow problem, CPM and PERT). (3) Introduction to game theory and decision theory (single strategy and mixed strategy models, risk and uncertainty decision making).	2	Required Course	航運管理學系進修學士班資訊管理組 Department of Shipping and Transportation Management	SDG9
2022	Contiuning Education Bachelor Degree Program	E4S04NBB	4	A	資訊系統規劃與設計	Information System Planning and Design	本課程旨在使學生瞭解資訊系統規劃的基本概念與資訊系統規劃在資訊系統建置中所扮演的角色，以理論配合與實務介紹資訊系統開發過程中，各階段應注意事項及其成功關鍵因素，使學生能對資訊系統建置有一整體概念。	The purpose of this course is to enable students to understand the basic concepts of information system planning and the role of information system planning in the construction of information systems, and to introduce the points that should be paid attention to at each stage and the key factors for success in the process of information system development through theoretical cooperation and practice so that students can have an overall concept of information system construction.	4	Elective Course	航運管理學系進修學士班資訊管理組 Department of Shipping and Transportation Management	SDG4、SDG11、SDG12、SDG17
2022	Contiuning Education Bachelor Degree	E4S04ID0	4	A	專家系統程式設計	Programming Expert Systems	結合PROLOG與專家系統，強調實務技術及PROLOG實現。	Combination of PROLOG and Expert System, with emphasis on practical skills and PROLOG realisation.	4	Elective Course	航運管理學系進修學士班資訊管理組 Department of Shipping and Transportation Management	SDG9
2022	Contiuning Education Master Degree Program	T4J02D89	2	A	財務管理	Financial Management	1.簡要回顧財務金融的核心觀點，包括風險與報酬之關係，貨幣的時間價值，市場效率，對沖套利，財務風險管理，代理問題，行為財務學等。 2.複習公司理財的理論與實務，包括資本預算、資本結構、資金成本、營運資金管理、股利政策。 3.深入探討公司理財重要議題：包括風險管理、公司治理、行為財務學、合併購併、國際財管、財務危機管理	Through the study on the real cases, the course helps students understand the real process of financial management, the characteristics of financial markets, and also the main frame of international markets.	3	Required Course	航運管理學系碩士在職專班企業管理組 Department of Shipping and Transportation Management	SDG1、SDG2、SDG4、SDG5、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16、SDG17
2022	Contiuning Education Master Degree Program	T4I02711	2	A	決策分析	Decision Analysis	瞭解決策分析的概念，並進一步應用決策分析的管理技術來探討企業、航運、空運、運輸管理相關研究議題，以協助個人與組織進行最佳決策分析。	Understand the concepts of Decision Analytics and further apply the management techniques of Decision Analytics to explore research issues related to business, shipping, air transport, and transportation management to assist individuals and organisations in conducting optimal decision analysis.	3	Elective Course	航運管理學系碩士在職專班企業管理組 Department of Shipping and Transportation Management	SDG9
2022	Contiuning Education Master Degree Program	T4I022VK	2	A	船舶融資與航運金融	Shipping Finance	1.說明財金領域的核心知識與金融市場的交易邏輯 2.複習一般公司理財的理論與實務 3.介紹海運物流公司財務管理的理論與實務，包括金融市場的融資工具、新船與二手船融資、資本結構決策、資本預算決策、財務風險管理、另類融資工具與伊斯蘭金融等。	This course discusses the essential theories and the best practice of financial management and shipping and logistics finance.	3	Elective Course	航運管理學系碩士在職專班企業管理組 Department of Shipping and Transportation Management	SDG1、SDG2、SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG12、SDG16
2022	Master Program	M7301H98	1	A	國際貿易專論	Seminars on International Trade	講述國際經貿多邊、區域與雙邊(含兩岸)之規範與實務經驗分享及討論, 並透過 模擬 國際際貿易談判，幫助學生了解當下全球經貿發展最新變局及區域經濟整合之發展，以及國際間處理經貿爭端之方式	The course will provide critical insights to students seeking to understand the basic principles, best practices, current challenges and future development in global multilateral, regional, and bilateral (Taiwan-US、Taiwan-China) economic and trade systems. This knowledge is key for any student aspiring for a successful career within the shipping and logistics industries.	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG1、SDG2、SDG7、SDG9、SDG10、SDG12、SDG13、SDG17

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2022	Master Program	M730150S	1	A	企業研究方法	Business Research Method	On completion of this module, a student should be able to achieve some of the following goals:undertake a literature search and review, identify research gap, evaluate academic arguments and develop a convincing argument of their own, manage their time effectively, understand how to work productively with project supervisors, create diagrams for different research purposes, write for academic and non-academic audiences, design a research poster, present their project orally to peers, learn the basic skills of academic writing	On completion of this module, a student should be able to achieve some of the following goals:undertake a literature search and review, identify research gap, evaluate academic arguments and develop a convincing argument of their own, manage their time effectively, understand how to work productively with project supervisors, create diagrams for different research purposes, write for academic and non-academic audiences, design a research poster, present their project orally to peers, learn the basic skills of academic writing	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG4、SDG5、SDG8、SDG9、SDG10、SDG16、SDG17
2022	Master Program	M7301K8Q	1	A	物流策略管理	Logistics Strategic Management	本課程針對企業經營策略結合供應鏈管理作深入而廣泛的探討。課程架構如下所示，分為四大Drivers：(1)存貨管理(2)供應鏈資訊整合(3)運輸規劃(4)供應鏈網路與設施設計。除了上課的講授外，並且配合個案研討，以兼顧數量理論與管理實務。修課同學以研究生為對象，為確保上課品質，修課同學最好具有基礎統計學背景，若有一點作業管理概念會更好。	This course is focus on a comprehensive study of the concepts, processes, and strategies used in the development and management of logistics and supply chains. Specific topics include strategic supply chain management,ocean/air management and logistics, procurement, electronic commerce, information technologies, and logistics activities etc.	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG9、SDG12、SDG13
2022	Master Program	M7302N75	2	A	運輸系統分析	Transportation System Analysis	以系統分析概念探討運輸的各種要素與功能，包含旅客運輸、貨物運輸、智慧型運輸系統。	Exploring various element/functions of transportation based system analysis concept, including passenger transportation, cargo transportation and intelligent transportation system.	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG9、SDG11
2022	Master Program	M730150K	1	A	綠色航運與物流管理	Green Shipping and Logistics Management	本課程主要目的是讓學生深入瞭解及探討綠色航運與物流管理的重要議題內容、經營業者實務採用之措施、以及探討該領域學術研究主題及未來研究之方向。	The aim of the course is to provide students with an advanced understanding and investigating the important issues on green shipping and logistics management, the current green shipping and logistics practices, and the academic research themes and future study directions.	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG14
2022	Master Program	M7301F24	1	A	航運總論	General Introduction to Shipping	1. 深入了解定期及不定航運經營之特性 2. 探討定期及不定期航業經營與管理之理論與實務 3. 航運實務問題研析	1.Analyzing the characteristics of liner and tramp shipping. 2.Introducing to the practice and theory of liner and tramp shipping. 3.Case studies	3	Required Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG9
2022	Master Program	M7302L92	2	B	港埠經營與管理	Port Administration and Management	1. 深入了解港埠管理與營運之特性 2. 探討港埠規劃與發展之理論與實務 3. 解析港口之規劃與佈置	After the academic semester, students in this class are expected to 1.Have in-depth knowledge on the port operation practice and management, 2.Understand theories and practices on port planning and development, 3.Learn the port planning and design skills.	3	Required Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG10、SDG11、SDG13、SDG14、SDG17
2022	Master Program	M7301J68	1	B	組織與管理	Organization and Management	1.瞭解管理的基本理論 2.強化同學對於組織管理相關機能的自我論述	This course is to help students obtain in-depth understandings of organizations through good comprehension of central theoretical perspectives and paradigms. This course will focus on determinants of an organization's success, focusing particularly on structure and design issues, as well as external environmental factors that impact organizational structure and functioning.	3	Required Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG1、SDG5、SDG8、SDG10、SDG12
2022	Master Program	M73012VK	1	A	船舶融資與航運金融	Shipping Finance	1.說明財金領域的核心知識與金融市場的交易邏輯 2.複習 公司理財的理論與實務 3.介紹海運物流公司財務管理的理論與實務，包括金融市場的融資工具、新船與二手船融資、資本結構決策、資本預算決策、財務風險管理、另類融資工具與伊斯蘭金融等。	This course discusses the essential theories and the best practice of financial management and shipping and logistics finance.	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG1、SDG2、SDG4、SDG5、SDG8、SDG9、SDG10、SDG11、SDG12、SDG16
2022	Master Program	M7302F13	2	A	航運管理專題研討	Seminars on Shipping Management	本課程係以分享教師在海運界多年實務經驗，並配合一定理論基礎，使學生除了了解理論層面外，更能與實務面接軌。	This course is designed to share the instructor's many years of practical experience in the maritime industry with a certain theoretical foundation, so that students can not only understand the theoretical aspects, but also be able to connect with the practical aspects.	3	Elective Course	航運管理學系碩士班 Department of Shipping and Transportation Management	SDG17
2022	Undergraduate	B7102K05	2	B	船舶管理與安全	Ship Management and Safety	本課程遵照國際海事組織 (IMO) Model Course 7.03-3.1 ENSURE COMPLIANCE WITH POLLUTION-PREVENTION REQUIREMENTS 之規範，兼顧相關必要知識或技能之傳授，編排授課內容。本課程乃著重培養學生對船舶安全、承運貨物特性與安全、船員及船隊管理之基本能力，以使其瞭解現代化船舶的管理與安全之知識與技能，從而具備就業或從事研究的需求。	This course follows the specifications of the International Maritime Organization (IMO) Model Course 7.03-3.1 ENSURE COMPLIANCE WITH POLLUTION-PREVENTION REQUIREMENTS, taking into account the transfer of relevant necessary knowledge or skills. This course focuses on developing students" basic skills in ship safety, cargo characteristics and safety, crew and fleet management, so as to understand the knowledge and skills of modern ship management and safety, so as to have the need for employment or research.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B71011KG	1	B	保全職責	Security duties for seafarers	本課程遵照國際海事組織(IMO)Model Course 3.26, STCW公約規則 VI/6、章程 A-VI/6 與表 A-VI/6-2 之規範，兼顧相關必要知識或技能之傳授，期使達到以下教學目標： 1.了解當前的保全威脅和類型; 2.識別和偵測武器，危險物質和裝置; 3.在非歧視的基礎上承認可能威脅到安全的人的特徵和行為; 4.用於規避安全措施的技術; 5.群眾管理和控制技術; 6.與安全有關的通信; 7.應急程序和應急計劃的知識; 8.安全設備和系統的運行; 9.保全設備和系統的測試，校準和海上維護; 10.檢查、控制和監測技術; 和 11.人員、個人物品、行李、貨物和船舶商店的實物搜查方法。	This course follows the norms of the IMO Model Course 3.26, STCW Convention Rule VI/6, Code A-VI/6 and Table A-VI/6-2, taking into account the transfer of relevant necessary knowledge or skills, so as to achieve the following teaching objectives: 1.knowledge of current security threats and patterns; 2.recognition and detection of weapons, dangerous substances and devices; 3.recognition, on a non-discriminatory basis, of characteristics and behavior alpatterns of persons who are likely to threaten security; 4.techniques used to circumvent security measures; 5.crowd management and control techniques; 6.security related communications; 7.knowledge of emergency procedures and contingency plans; 8.operation of security equipment and systems; 9.testing, calibration and at-sea maintenance of security equipment and systems; 10.inspection, control, and monitoring techniques; and 11.methods of physical searches of persons, personal effects, baggage, cargo, and ship stores.	1	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B71031KI	3	A	領導統御與駕駛臺資源管理	Leadership and Bridge Resource Management	1. 符合STCW2010關於在500總噸(含)以上商船擔任操作級航行當值船副適任標準。 2. 具備駕駛臺資源管理的知識原理，包含資源配置與指派的優先順序、有效的溝通、領導統御與瞭解並進入狀況。	1. To satisfy the STCW2010 required minimum standard of competence for officers in charge of a navigational watch at the operational level on ships of 500 gross tonnage or more. 2. To have the knowledge of bridge resource management principles, including: (1) allocation, assignment, and prioritization of resources, (2) effective communication, (3) assertiveness and leadership, (4) obtaining and maintaining situational awareness.	2	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG5、SDG8、SDG10、SDG12、SDG16、SDG17
2022	Undergraduate	B71041R2	4	A	操船模擬	Ship Handling and Simulation	本課程遵照國際海事組織(IMO)Model Course 7.03-1.3 Use of Radar and ARPA to Maintain Safety of Navigation 雷達及自動測繪雷達之使用以維持航行安全; 及(IMO Model Course No.1.07 and STCW 1995 Regulation 1/12), 及 1.2.1 Knowledge of the Collision Regulation 避碰規則知識。1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles in Keeping a Navigational Watch 艙面當值; 1.1.3 Electronic Systems of Position Fixing and Navigation 電子定位及導航系統等之規範;兼顧相關必要知識或技能之傳授，編排以下授課內容。 學生利用ARPA模擬機及操船模擬機之操作能學習下列事項： 1. 熟悉駕駛台之各項設備及功能 2. 操作各項設備 3. 舵令、俥鐘的熟悉與應用 4. 觀測船舶間之動態 5. 練習船舶避讓	This Code complies with International Maritime Organisation (IMO) Model Course 7.03-1.3 Use of Radar and ARPA to Maintain Safety of Navigation; and (IMO Model Course No. 1.07 and STCW 1995 Regulation 1/12), and 1.2.1 Knowledge of the Collision Regulation. 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2.1 Knowledge of the Collision Regulation. (IMO Model Course No.1.07 and STCW 1995 Regulation 1/12), and 1.2.1 Knowledge of the Collision Regulation 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles in Keeping a Navigational Watch; 1.1.3 Electronic Systems of Position Fixing and Navigation Electronic Positioning and Navigation Systems, etc.; taking into account the transfer of related necessary knowledge or skills, the following course content is arranged. The course content is as follows. Students will learn the following by operating the ARPA simulator and the ship-handling simulator: 1) Familiarise themselves with the equipment and functions of the cockpit. 2. operate various equipment 3. familiarise themselves with the rudder command and the use of the bell. 4. Observe the ship's dynamics 5. practise ship avoidance	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14
2022	Undergraduate	B7102558	2	A	地理資訊系統概論	Introduction of Geographic Information System	地理資訊系統是近年快速發展的科技，它運用電腦工具來整合各種不同來源的空間資料，協助決策者擬訂最佳的空間決策。經由地理資訊系統之發展、功能及實際應用的講授，使同學了解地理資訊系統的理論基礎及應用方向，透過實機操作使同學能熟悉地理資訊系統工具的操作，達到理論與實務充分配合。	Geographic information system (GIS) is a kind of science and technology or service developed rapidly in recent years. It uses computer tools to integrate with the spatial data from various resources and material, and to assist decision makers in developing the most suitable spatial decisions. This course is an introduction of GIS comprised basic GIS concepts, terms, spatial analysis theories and practical applications. Students will learn the basic concepts and theories of GIS and could use the GIS software to solve actual problems by lecturing on the current development of GIS technologies and various spatial analysis functions of software, as well as illustrating and drilling on some hands-on exercises.	2	Elective Course	商船學系 Department of Merchant Marine	SDG9、SDG11、SDG14、SDG15、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7101I2O	1	B	基本滅火	Fire Prevention and Fire Fighting	本課程內容係遵照IMO Model Course 7.03 3.3和1978 STCW Code Section A-VI/1之規定編排而成者,期使學生能夠學習"助理級"船員所應具備的防火、滅火和安全等方面之基礎知識和技能。	This course is organized in accordance with the provisions of IMO Model Course 7.03 3.3 and 1978 STCW Code Section A-VI/1 to enable students to learn the basics and skills of fire prevention, fire extinguishing and safety required for " Support level " crew members.	1	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG7、SDG14、SDG17
2022	Undergraduate	B710318V	3	A	海上人命安全	Safety of Life at Sea	使學生瞭解國際海上人命安全公約相關章程之規定	Introduce the history of the International Convention on the Safety of Life at Sea and the content of related regulations	2	Elective Course	商船學系 Department of Merchant Marine	SDG4
2022	Undergraduate	B7101J33	1	A	第一階段船上集體實習	The First Stage Team Training on Ship	藉由Model Couse 7.03-1.1.2與海上實習,印證理論與實務,期達教學效果。	Model Couse 7.03-1.1.2 and sea practice are used to confirm the theory and practice, and to achieve the teaching effect.	0	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG5、SDG17
2022	Undergraduate	B7101NNY	1	A	服務學習_愛校服務(Ⅱ)	Service-Learning Program-Campus Service(II)	加強學生由班長組織各小組完成每週服務工作	Enhanced students will be organised by the class leader to complete the weekly service work in small groups.	0	Service Learning Program	商船學系 Department of Merchant Marine	SDG4、SDG5、SDG6、SDG11
2022	Undergraduate	B71024AG	2	A	貨櫃運輸作業	Container Transportation Operations	從講解傳統海洋運輸導入，進入貨櫃運輸。輔以船舶、貨櫃圖片及作業流程圖等，讓同學了解實務運作的情況。讓同學了解國際貨櫃運輸實務現況，加強同學對國際貨櫃運輸實務的認識，並提高日後進入國際海洋運輸的興趣。	From explaining traditional maritme transport, means of containerization ship, container type, flowing procedure of container terminal (depot), and discuss practical operation issues.This subject provides students with a full understanding of current developments in the liner shipping, and to enable them to be familiar with the application of practical skills in container transport management decision making.	2	Elective Course	商船學系 Department of Merchant Marine	SDG8、SDG9、SDG17
2022	Undergraduate	B7121547	1	B	地文航海	Geo-Navigation	本課程係依照國際海事組織(IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation以及1.2.4 The Use of Routing之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關地文航海的「操作級」及「管理級」海員。	Based on the International Maritime Organization (IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation and 1.2.4 The Use of Routing, this course takes the necessary knowledge and skills into account to teach students learning about the Geo-Navigation and being a recognized seafarer for Operational and Management levels. It is complying with the maritime professional competence standard of navigation on the "International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 2010".	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG17
2022	Undergraduate	B71011KG	1	A	保全職責	Security duties for seafarers	本課程遵照國際海事組織(IMO)Model Course 3.26, STCW 公約規則 VI/6、章程 A-VI/6 與表 A-VI/6-2 之規範，兼顧相關必要知識或技能之傳授，期使達到以下教學目標： 1.了解當前的保全威脅和類型; 2.識別和偵測武器，危險物質和裝置; 3.在非歧視的基礎上承認可能威脅到安全的人的特徵和行為; 4.用於規避安全措施的技術; 5.群眾管理和控制技術; 6.與安全有關的通信; 7.應急程序和應急計劃的知識; 8.安全設備和系統的運行; 9.保全設備和系統的測試，校準和海上維護; 10.檢查、控制和監測技術; 和 11.人員、個人物品、行李、貨物和船舶商店的實物搜查方法。	This course follows the norms of the IMO Model Course 3.26, STCW Convention Rule VI/6, Code A-VI/6 and Table A-VI/6-2, taking into account the transfer of relevant necessary knowledge or skills, so as to achieve the following teaching objectives: 1.knowledge of current security threats and patterns; 2.recognition and detection of weapons, dangerous substances and devices; 3.recognition, on a non-discriminatory basis, of characteristics and behavior alpatterns of persons who are likely to threaten security; 4.techniques used to circumvent security measures; 5.crowd management and control techniques; 6.security related communications; 7.knowledge of emergency procedures and contingency plans; 8.operation of security equipment and systems; 9.testing, calibration and at-sea maintenance of security equipment and systems; 10.inspection, control, and monitoring techniques; and 11.methods of physical searches of persons, personal effects, baggage, cargo, and ship stores.	1	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B7102K05	2	A	船舶管理與安全	Ship Management and Safety	本課程遵照國際海事組織 (IMO) Model Course 7.03-3.1 ENSURE COMPLIANCE WITH POLLUTION-PREVENTION REQUIREMENTS 之規範，兼顧相關必要知識或技能之傳授，編排授課內容。本課程乃著重培養學生對船舶安全、承運貨物特性與安全、船員及船隊管理之基本能力，以使其瞭解現代化船舶的管理與安全之知識與技能，從而具備就業或從事研究的需求。	This course follows the specifications of the International Maritime Organization (IMO) Model Course 7.03-3.1 ENSURE COMPLIANCE WITH POLLUTION-PREVENTION REQUIREMENTS, taking into account the transfer of relevant necessary knowledge or skills. This course focuses on developing students" basic skills in ship safety, cargo characteristics and safety, crew and fleet management, so as to understand the knowledge and skills of modern ship management and safety, so as to have the need for employment or research.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7102P06	2	A	電子航海	Electronic Navigation	使學生瞭解各種電子航法基礎理論及實務。	Electronic navigation refers to the use of electronic devices and technologies to assist in navigation. These devices include radar, Automatic Identification System (AIS), Electronic Chart Display and Information Systems (ECDIS), and Global Positioning System (GPS). These technologies provide information on the position, heading, speed, etc., of a vessel or aircraft, aiding navigators or pilots in navigation and collision avoidance.	2	Required Course	商船學系 Department of Merchant Marine	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B7101I2O	1	A	基本滅火	Fire Prevention and Fire Fighting	本課程內容係遵照IMO Model Course 7.03 3.3和1978 STCW Code Section A-VI/1之規定編排而成者,期使學生能夠學習"助理級"船員所應具備的防火、滅火和安全等方面之基礎知識和技能。	This course is organized in accordance with the provisions of IMO Model Course 7.03 3.3 and 1978 STCW Code Section A-VI/1 to enable students to learn the basics and skills of fire prevention, fire extinguishing and safety required for " Support level " crew members.	1	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG7、SDG14、SDG17
2022	Undergraduate	B71031KH	3	A	電子海圖與資料顯示系統	Electronic Chart Display and Information System	本課程內容係依據STCW章程第II章第II/1節表A-II/1及第II/2節表A-II/2之規定，並遵照國際海事組織(IMO) Model Course 7.03-1.4 (Use of ECDIS to maintain safety of navigation)，以及Model Course 1.27 –操作級電子海圖顯示與資訊系統之操作使用(Operational Use of ECDIS)之規範。兼顧相關必要知識與技能之傳授來規劃課程，使學生不僅能瞭解IMO/IHO對於此項系統之各項規定，而且還具備操縱該系統之基本知識及必要的技能。	The content of this course is based on the STCW Code of Conduct, Chapter II, Section II/1, Table A-II/1 and Section II/2, Table A-II/2, in accordance with the International Maritime Organisation (IMO) Model Course 7.03-1.4 (Use of ECDIS to maintain the safety of navigation) and Model Course 1.27 - Operational Use of Electronic Chart Display and Information Systems (ECDIS). Course 1.27 - Operational Use of Electronic Chart Display and Information Systems (ECDIS). The programme is designed to provide the necessary knowledge and skills to enable students to not only understand the IMO/IHO requirements for ECDIS, but also to acquire the basic knowledge and skills necessary to operate the system.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG14
2022	Undergraduate	B7121547	1	A	地文航海	Geo-Navigation	本課程係依照國際海事組織(IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation以及1.2.4 The Use of Routing之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關地文航海的「操作級」及「管理級」海員。	Based on the International Maritime Organization (IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation and 1.2.4 The Use of Routing, this course takes the necessary knowledge and skills into account to teach students learning about the Geo-Navigation and being a recognized seafarer for Operational and Management levels. It is complying with the maritime professional competence standard of navigation on the "International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 2010".	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG17
2022	Undergraduate	B71030N0	3	A	人命安全與防止海洋污染	SOLAS and MARPOL	1. 使學生瞭解海上人命安全公約與相關章程之內容。 2. 使學生瞭解防止海洋污染公約之內容。	1. Make students aware of the content of the Convention on the Safety of Life at Sea and related regulations. 2. Make students aware of the content of the Convention on the Prevention of Marine Pollution.	2	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG6、SDG7、SDG13、SDG14、SDG15、SDG17
2022	Undergraduate	B71031KH	3	A	電子海圖與資料顯示系統	Electronic Chart Display and Information System	本課程內容係依據STCW章程第II章第II/1節表A-II/1及第II/2節表A-II/2之規定，並遵照國際海事組織(IMO) Model Course 7.03-1.4 (Use of ECDIS to maintain safety of navigation)，以及Model Course 1.27 –操作級電子海圖顯示與資訊系統之操作使用(Operational Use of ECDIS)之規範。兼顧相關必要知識與技能之傳授來規劃課程，使學生不僅能瞭解IMO/IHO對於此項系統之各項規定，而且還具備操縱該系統之基本知識及必要的技能。	The content of this course is based on the STCW Code of Conduct, Chapter II, Section II/1, Table A-II/1 and Section II/2, Table A-II/2, in accordance with the International Maritime Organisation (IMO) Model Course 7.03-1.4 (Use of ECDIS to maintain the safety of navigation) and Model Course 1.27 - Operational Use of Electronic Chart Display and Information Systems (ECDIS). The programme is designed to provide the necessary knowledge and skills to enable students to not only understand the IMO/IHO requirements for ECDIS, but also to acquire the basic knowledge and skills necessary to operate the system.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG14
2022	Undergraduate	B71043G3	4	A	電子航儀與整合航海系統	Navigational Instruments & Integrated Navigation	將依據國際海事組織典範課程(IMO Model Course) 1.32 – 整合駕駛台系統之操作使用(Operational Use of Integrated Bridge Systems, IBS)之要求來規劃課程，使學生瞭解此項規範之必要資訊及具備操縱該系統之基本知識及技巧。	The course will be planned in accordance with the requirements of the IMO Model Course 1.32 - Operational Use of Integrated Bridge Systems (IBS) to enable students to understand the necessary information and skills to operate the system. The course is designed to enable students to understand the necessary information and to acquire the basic knowledge and skills to operate the system.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG14
2022	Undergraduate	B7101NNX	1	B	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	培養學生對學校校園清潔之維護以及對學校師生之服務情操及胸懷,進而擴大至社會及國家服務之情操	Cultivate students" maintenance of school campus cleanliness and service sentiment and mind for school teachers and students, and then expand to social and national service sentiment.	0	Service Learning Program	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG5、SDG6、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7111547	1	A	地文航海	Geo-Navigation	本課程係依照國際海事組織(IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation以及1.2.4 The Use of Routing之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關地文航海的「操作級」及「管理級」海員。	Based on the International Maritime Organization (IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation and 1.2.4 The Use of Routing, this course takes the necessary knowledge and skills into account to teach students learning about the Geo-Navigation and being a recognized seafarer for Operational and Management levels. It is complying with the maritime professional competence standard of navigation on the "International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 2010".	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG17
2022	Undergraduate	B7101992	1	B	計算機概論	Introduction to Computer Science	學習計算機科學的基本理論課程，讓同學由認識電腦之軟硬體架構、系統基本運作方式、數字系統、數值邏輯、資料結構、演算法、常用套裝軟體與相關網路應用，以及電腦病毒和網路安全等，進而熟悉電腦的操作並與日常生活相結合，以奠定日後接觸資訊相關專業領域之基礎。	Learn the basic theoretical courses of computer science, so that students can understand the software and hardware architecture of computer, the basic operation mode of the system, digital system, numerical logic, data structure, algorithm, common software package and related network applications, as well as computer virus and network Road safety, etc., and then become familiar with computer operation and integrate it with daily life, so as to lay the foundation for future exposure to information-related professional fields.	2	Required Course	商船學系 Department of Merchant Marine	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B71023XU	2	A	海事應用統計學	Marine Statistics	1.介紹與船舶作業相關的統計方法， 2.提供資訊給必須使用統計型式呈現資料的海員與希望使用統計方法解決問題的海員。	An introduction to statistical method for any concerned with the operation of ships. It is intended for those who have to understand information presented in statistical form and for those who wish to use statistical methods to help in analysing problems they are faced with.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG17
2022	Undergraduate	B7103K2B	3	A	船舶操縱	Ship Handling	本課程遵照國際海事組織(IMO)Model Course 7.03-1.8.1 Ship maneouvring and Handling 船舶操縱之規範;包括: 1.8.1.1 Turning circles and stopping distance. 1.8.1.2 Effect of wind and current on ship handling. 1.8.1.3 Maneouvres for rescue of person overboard. 1.8.1.4 Squat, shallow water and similar effects. 1.8.1.5 Proper procedures for anchoring and mooring.兼顧相關必要知識或技能之傳授，編排以下授課內容。 使學生瞭解船舶的基本屬具和操縱設備，使操船者在當時外界環境條件下，利用船舶本身設備、特性或其他手段，以保持或改變船舶運動狀態為目的而進行安全航行的必要觀察、分析、判斷、指揮、實施等。	This course follows the International Maritime Organization (IMO) Model Course 7.03-1.8.1 Ship maneouvring and handling; Includes: 1.8.1.1 Turning circles and stopping distance. 1.8.1.2 Effect of wind and current on ship handling. 1.8.1.3 Maneouvres for rescue of person overboard. 1.8.1.4 Squat, shallow water and similar effects. 1.8.1.5 Proper procedures for anchoring and mooring. Taking into account the transfer of relevant necessary knowledge or skills, the following teaching contents are arranged: To enable students to understand the basic attachments and operating equipment of the ship, so that the operator can use the equipment, characteristics or other means of the ship itself to maintain or change the state of movement of the ship for the purpose of carrying out the necessary observation, analysis, judgment, command, implementation, etc. for safe navigation under the conditions of the external environment at that time.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG17
2022	Undergraduate	B71030DU	3	B	操作級雷達及ARPA	Radar Navigation, Radar Plotting and Use of ARPA	本課程遵照國際海事組織(IMO)Model Course 7.03-1.3(Use of Radar and ARPA to Maintain Safety of Navigation)及Model Course 1.07之規範，兼顧相關必要知識或技能之傳授，期使達到以下教學目標： 使學生瞭解雷達及ARPA之使用，以維持船舶之航行安全。	This course follows the specifications of the International Maritime Organization (IMO) Model Course 7.03-1.3 (Use of Radar and ARPA to Maintain Safety of Navigation) and Model Course 1.07, taking into account the transfer of relevant necessary knowledge or skills, with a view to achieving the following teaching objectives: to enable students to understand the use of radar and ARPA in order to maintain the safety of navigation of ships.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG14、SDG16、SDG17
2022	Undergraduate	B7102D08	2	A	海商法	Maritime Law	達到高級航海人員對海商法具備之知識要求。	The Purpose of Maritime Law to Assist Maritime Training Institutes	2	Elective Course	商船學系 Department of Merchant Marine	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG16、SDG17
2022	Undergraduate	B7111547	1	B	地文航海	Geo-Navigation	本課程係依照國際海事組織(IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation以及1.2.4 The Use of Routing之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關地文航海的「操作級」及「管理級」海員。	Based on the International Maritime Organization (IMO) Model Course 7.03-1.1.2 Terrestrial and Coastal Navigation and 1.2.4 The Use of Routing, this course takes the necessary knowledge and skills into account to teach students learning about the Geo-Navigation and being a recognized seafarer for Operational and Management levels. It is complying with the maritime professional competence standard of navigation on the "International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 2010".	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG17
2022	Undergraduate	B7112547	2	A	地文航海	Geo-Navigation	使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約1995年修正案」航海專長適任標準中,有關地文航海的「操作級」及「管理級」海員。	To enable students to learn to meet the "Operational Level" and "Management Level" seafarers related to territorial navigation in the 1995 Amendment to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7101992	1	A	計算機概論	Introduction to Computer Science	學習計算機科學的基本理論課程，讓同學由認識電腦之軟硬體架構、系統基本運作方式、數字系統、數值邏輯、資料結構、演算法、常用套裝軟體與相關網路應用，以及電腦病毒和網路安全等，進而熟悉電腦的操作並與日常生活相結合，以奠定日後接觸資訊相關專業領域之基礎。	Learn the basic theoretical courses of computer science, so that students can understand the software and hardware architecture of computer, the basic operation mode of the system, digital system, numerical logic, data structure, algorithm, common software package and related network applications, as well as computer virus and network Road safety, etc., and then become familiar with computer operation and integrate it with daily life, so as to lay the foundation for future exposure to information-related professional fields.	2	Required Course	商船學系 Department of Merchant Marine	SDG1、SDG2、SDG3、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B71030DU	3	A	操作級雷達及ARPA	Radar Navigation, Radar Plotting and Use of ARPA	本課程遵照國際海事組織(IMO)Model Course 7.03-1.3(Use of Radar and ARPA to Maintain Safety of Navigation)及Model Course 1.07之規範，兼顧相關必要知識或技能之傳授，期使達到以下教學目標： 使學生瞭解雷達及ARPA之使用，以維持船舶之航行安全。	This course follows the specifications of the International Maritime Organization (IMO) Model Course 7.03-1.3 (Use of Radar and ARPA to Maintain Safety of Navigation) and Model Course 1.07, taking into account the transfer of relevant necessary knowledge or skills, with a view to achieving the following teaching objectives: to enable students to understand the use of radar and ARPA in order to maintain the safety of navigation of ships.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B71032HX	3	A	散裝貨輪裝載概述	Introduction to bulk carrier	本課程遵照STCW Code chapter A-II/1, regulation A-II/1, 國際海事組織(IMO)Model Course 7.03 中MONITOR THE LOADING, STOWAGE, SECURING AND UNLOADING OF CARGOES AND THEIR CARE DURING THE VOYAGE監督裝貨、積載、繫固及卸貨暨航行中照料之章節 -2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship 貨物之影響，包括重貨對船舶適航性及穩度之影響,及 -2.1.2 Safe Handling, Stowage and Securing of Cargoes 安全裝卸、積載及貨物繫固。 課程兼顧相關必要知識或技能之傳授，以兼具理論與實務並重之方式期使達到以下教學目標： 1.使學生瞭解散裝貨物之裝卸與儲存原則。 2.使學生瞭解散裝貨輪之裝卸特性。 3.使學生瞭解散裝貨輪裝卸與儲存對船舶安全之影響。	This course follows STCW Code chapter A-II/1, regulation A-II/1, International Maritime Organization (IMO) Model Course 7.03 MONITOR THE LOADING, STOWAGE, SECURING AND UNLOADING OF CARGOES AND THEIR CARE DURING THE VOYAGE, -2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship, and -2.1.2 Safe Handling, Stowage and Securing of Cargoes. The course takes into account the transfer of relevant necessary knowledge or skills, and attaches equal importance to theory and practice to achieve the following teaching objectives: 1. To enable students to understand the principles of loading, unloading and storage of bulk goods. 2. Enable students to understand the loading and unloading characteristics of bulk carriers. 3. Enable students to understand the impact of bulk carrier loading, unloading and storage on ship safety.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG17
2022	Undergraduate	B71024O4	2	A	Python程式設計入門	Introducing of Python programming	本課程將介紹如何運用Python語言來規劃與設計程式之基本技巧，以及幾項常用的自動化檔案的組織管理、Web 擷取資訊、處理 Excel 試算表、處理影像圖片 工具以及範例	This course introduces the basic techniques of planning and designing programmes in Python, as well as several commonly used tools and examples for automated file organisation, web retrieval, Excel spreadsheet processing, and image processing.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG10
2022	Undergraduate	B71031KI	3	A	領導統御與駕駛臺資源管理	Leadership and Bridge Resource Management	1. 符合STCW2010關於在500總噸(含)以上商船擔任操作級航行當值船副適任標準。 2. 具備駕駛臺資源管理的知識原理，包含資源配置與指派的優先順序、有效的溝通、領導統御與瞭解並進入狀況。	1. To satisfy the STCW2010 required minimum standard of competence for officers in charge of a navigational watch at the operational level on ships of 500 gross tonnage or more. 2. To have the knowledge of bridge resource management principles, including: (1) allocation, assignment, and prioritization of resources, (2) effective communication, (3) assertiveness and leadership, (4) obtaining and maintaining situational awareness.	2	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG5、SDG8、SDG10、SDG12、SDG16、SDG17
2022	Undergraduate	B7103C06	3	A	海事法規	Maritime Administrative Law	本課程遵照國際海事組織(IMO)Model Course7.03-3.1 Ensure Compliance with pollution of the Marine Environment　&3.6.1 Basic working Knowledge of the Relevant IMO Conventions concerning SOLAS and MARPOL之規範,兼顧相關必要知識或技能之傳授,編排以下授課內容。	This course follows the International Maritime Organization (IMO) Model Course 7.03-3.1 Ensure Compliance with pollution of the Marine Environment & 3.6.1 Basic working Knowledge of the Relevant IMO Conventions concerning SOLAS and MARPOL specifications take into account the transfer of relevant necessary knowledge or skills, and the following course contents are arranged.	2	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG8、SDG14、SDG15、SDG17
2022	Undergraduate	B7103C06	3	B	海事法規	Maritime Administrative Law	本課程遵照國際海事組織(IMO)Model Course7.03-3.1 Ensure Compliance with pollution of the Marine Environment　&3.6.1 Basic working Knowledge of the Relevant IMO Conventions concerning SOLAS and MARPOL之規範,兼顧相關必要知識或技能之傳授,編排以下授課內容。	This course follows the International Maritime Organization (IMO) Model Course 7.03-3.1 Ensure Compliance with pollution of the Marine Environment & 3.6.1 Basic working Knowledge of the Relevant IMO Conventions concerning SOLAS and MARPOL specifications take into account the transfer of relevant necessary knowledge or skills, and the following course contents are arranged.	2	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG4、SDG8、SDG14、SDG15、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7103K9D	3	A	船舶穩度	Ship Hydrostatics and Stability	本課程係依照國際海事組織(IMO) Model Course 7.03-2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship．2.1.2 Safe Handling, Stowage and Securing of Cargoes．3.2.1 Ship Stability．3.2.2 Ship Construction以及Physical Science之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關船舶操作及船上人員管理之操作級能力所需之知識及技術。	This course follows the International Maritime Organisation (IMO) Model Course 7.03-2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship, 2.1.2 Safe Handling, Stowage and Securing of Cargoes, 3.2.1 Ship Stability, 3.2.2 Ship Construction and Physical Science, taking into account the transfer of knowledge or skills necessary to enable the student to acquire the necessary knowledge or skills to meet the requirements of the Seafarers' Training, Certification and Duty of Manners Act 1978. Students are taught the knowledge and skills required to achieve operational level competence in ship operations and shipboard personnel management in accordance with the competency standards for Master Mariners set out in the 2010 Amendment to the International Convention on Standards of Training, Certification and Competency for Seafarers 1978 (STCW).	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG16、SDG17
2022	Undergraduate	B7103PGD	3	A	救生艇筏與救難艇操縱	Proficiency in Survival Craft and Rescue Boat	本課程係依照國際海事組織(IMO) Model Course 7.03-3.4 Operate Life-Saving Appliances之規範，並參考Model Course 1.23 Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats及1978年STCW國際公約2010修正案規則VI/2、SOLAS國際公約和LSA章程等最新修正的相關內容，兼顧相關必要知識或技能之傳授，教導同學認識且能正確操作使用救生艇、救難艇、救生筏、救生衣、浸水衣、救生圈等救生裝備，同時熟悉各項求生通訊設備使用、遇險信號發送、傷患急救處置、直昇機吊掛裝備與救援方式、救生艇和救難艇的保養檢查，及惡劣天候下之艇筏操縱等專業知識與技能，進而掌握和控制在船舶異常狀況下個人與全船旅客如何有效避免危難之發生，並應付危難中的各種困境，以達自救與救人之目的。	This course is based on the International Maritime Organisation (IMO) Model Course 7.03-3.4 Operate Life-Saving Appliances with reference to Model Course 1.23 Proficiency in Survival Craft and Rescue Boats, other than Fast Rescue Boats and the latest amendments to the STCW International Convention 2010 Amendment Code VI/2, the SOLAS International Convention and the LSA Code. other than Fast Rescue Boats and the latest amendments to the STCW International Convention of 1978, Amendment VI/2, the SOLAS International Convention and the LSA Constitution, etc., and taking into account the transfer of necessary knowledge or skills, students are taught to understand and be able to correctly operate and use the life-saving equipment such as lifeboats, rescue boats, rafts, lifejackets, immersion suits, and lifebuoys, and to be familiar with the life-saving equipment. At the same time, students will be familiar with the use of various survival communication equipment, distress signal transmission, first aid treatment of injuries, helicopter lifting equipment and rescue methods, maintenance and inspection of lifeboats and rescue boats, as well as raft manoeuvring under adverse weather conditions, etc., so as to further master and control how to effectively avoid the occurrence of danger and cope with all kinds of difficulties in the ship's abnormal conditions. The purpose of self-rescue and rescue.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG5、SDG17
2022	Undergraduate	B71041R2	4	A	操船模擬	Ship Handling and Simulation	本課程遵照國際海事組織(IMO)Model Course 7.03-1.3 Use of Radar and ARPA to Maintain Safety of Navigation 雷達及自動測繪雷達之使用以維持航行安全; 及(IMO Model Course No.1.07 and STCW 1995 Regulation 1/12), 及 1.2.1 Knowledge of the Collision Regulation 避碰規則知識。1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles in Keeping a Navigational Watch 艙面當值; 1.1.3 Electronic Systems of Position Fixing and Navigation 電子定位及導航系統等之規範;兼顧相關必要知識或技能之傳授，編排以下授課內容。 學生利用ARPA模擬機及操船模擬機之操作能學習下列事項： 1. 熟悉駕駛台之各項設備及功能 2. 操作各項設備 3. 舵令、俥鐘的熟悉與應用 4. 觀測船舶間之動態 5. 練習船舶避讓	This procedure complies with International Maritime Organisation (IMO) Model Course 7.03-1.3 Use of Radar and ARPA to Maintain Safety of Navigation; and (IMO Model Course No.1.07 and STCW 1995 Regulation 1/12 and 1.2.1 Knowledge of the Collision Regulation. 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles of collision avoidance. (IMO Model Course No.1.07 and STCW 1995 Regulation 1/12), and 1.2.1 Knowledge of the Collision Regulation 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles in Keeping a Navigational Watch in Keeping a Navigational Watch; 1.1.3 Electronic Systems of Position Fixing and Navigation Electronic positioning and navigation systems, etc.; taking into account the transfer of related necessary knowledge or skills, the following course content is arranged. Students will learn the following by operating the ARPA simulator and the ship-handling simulator: 1) Familiarise themselves with the equipment and functions of the cockpit. 2. operate various equipment 3. familiarise themselves with the rudder command and the use of the bell. 4. Observe the ship's dynamics 5. practise ship avoidance Translated with www.DeepL.com/Translator (free version)	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14
2022	Undergraduate	B7112437	2	A	民法概要	Introduction to Civil Law	介紹生活的法律，並使法律生活化。		2	Elective Course	商船學系 Department of Merchant Marine	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B71021R3	2	A	貨櫃碼頭作業系統模擬	Simulation on Container Terminal Operation System	科技之進步，使得港埠設施之改變，日新月異，為使本學系畢業之學生，對於現今港埠現代化設施之使用與操作，有更深層之認識與瞭解。然而，港埠設施具有其複雜性，使得教學上常缺乏適當之輔助教具，只能空憑想像與意會而無法具體呈現其成效，藉由此港埠模擬系統的助益，可一目了然複雜實際港埠系統之完整運作流程。	The advancement of science and technology has led to changes in port facilities with each passing day. In order to enable the students graduating from this department to have a deeper knowledge and understanding of the use and operation of modern port facilities, we have developed the Port Simulation System (PSS), which has been developed by the University of Hong Kong. However, the complexity of port facilities makes the lack of appropriate teaching aids in the teaching of port facilities often leaves only the imagination and imagination without the ability to concretely show its effectiveness. With the help of this port simulation system, the complete operation process of the complex actual port system can be seen at a glance.	2	Elective Course	商船學系 Department of Merchant Marine	SDG4、SDG9、SDG11、SDG12、SDG13、SDG14
2022	Undergraduate	B71030N0	3	B	人命安全與防止海洋污染	SOLAS and MARPOL	1. 使學生瞭解海上人命安全公約與相關章程之內容。 2. 使學生瞭解防止海洋污染公約之內容。	1. Make students aware of the content of the Convention on the Safety of Life at Sea and related regulations. 2. Make students aware of the content of the Convention on the Prevention of Marine Pollution.	2	Required Course	商船學系 Department of Merchant Marine	SDG3、SDG6、SDG7、SDG13、SDG14、SDG15、SDG17
2022	Undergraduate	B71031DU	3	A	船舶通訊與GMDSS	Marine Communication and GMDSS	本課程內容係依據STCW章程第II章第II/1節表A-II/1及第II/2節表A-II/2之規定，並遵照國際海事組織(IMO) Model Course 7.03-1.6 (RESPOND TO A DISTRESS SIGNAL AT SEA)、Model Course 7.03-1.8(TRANSMIT AND RECEIVE INFORMATION BY VISUAL SIGNALLING) 及Model Course 1.25–GMDSS通用級值機員發證(General Operator"s Certificate for the GMDSS)之規範。兼顧相關必要知識或技能之傳授來規劃課程，使學生瞭解此項設備之必要資訊及具備操縱該系統之基本知識。	In comply with the STCW convention, this course follows IMO Model Course 1.25 (General Operators Certificate for the GMDSS) lecturing the relevant knowledge of maritime communication, including the theory of GMDSS, to ensure that the trainees are capable of managing those equipments onboard ship with necessary skills.	3	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG14
2022	Undergraduate	B7103K2B	3	B	船舶操縱	Ship Handling	本課程遵照國際海事組織(IMO)Model Course 7.03-1.8.1 Ship maneouvring and Handling 船舶操縱之規範;包括: 1.8.1.1 Turning circles and stopping distance. 1.8.1.2 Effect of wind and current on ship handling. 1.8.1.3 Maneouvres for rescue of person overboard. 1.8.1.4 Squat, shallow water and similar effects. 1.8.1.5 Proper procedures for anchoring and mooring.兼顧相關必要知識或技能之傳授，編排以下授課內容。 使學生瞭解船舶的基本屬具和操縱設備，使操船者在當時外界環境條件下，利用船舶本身設備、特性或其他手段，以保持或改變船舶運動狀態為目的而進行安全航行的必要觀察、分析、判斷、指揮、實施等。	This course follows the International Maritime Organization (IMO) Model Course 7.03-1.8.1 Ship maneouvring and handling; Includes: 1.8.1.1 Turning circles and stopping distance. 1.8.1.2 Effect of wind and current on ship handling. 1.8.1.3 Maneouvres for rescue of person overboard. 1.8.1.4 Squat, shallow water and similar effects. 1.8.1.5 Proper procedures for anchoring and mooring. Taking into account the transfer of relevant necessary knowledge or skills, the following teaching contents are arranged: To enable students to understand the basic attachments and operating equipment of the ship, so that the operator can use the equipment, characteristics or other means of the ship itself to maintain or change the state of movement of the ship for the purpose of carrying out the necessary observation, analysis, judgment, command, implementation, etc. for safe navigation under the conditions of the external environment at that time.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG17
2022	Undergraduate	B7103K9D	3	B	船舶穩度	Ship Hydrostatics and Stability	本課程係依照國際海事組織(IMO) Model Course 7.03-2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship，2.1.2 Safe Handling, Stowage and Securing of Cargoes，3.2.1 Ship Stability，3.2.2 Ship Construction以及Physical Science之規範，兼顧相關必要知識或技能之傳授，使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約2010年修正案」航海專長適任標準中，有關船舶操作及船上人員管理之操作級能力所需之知識及技術。	This course follows the International Maritime Organisation (IMO) Model Course 7.03-2.1.1 The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship, 2.1.2 Safe Handling, Stowage and Securing of Cargoes, 3.2.1 Ship Stability, 3.2.2 Ship Construction and Physical Science. Handling, Stowage and Securing of Cargoes, 3.2.1 Ship Stability, 3.2.2 Ship Construction and Physical Science, taking into account the transfer of knowledge or skills necessary to enable the student to acquire the necessary knowledge or skills to meet the requirements of the Seafarers' Training, Certification and Duty of Manners Act 1978. Students are taught the knowledge and skills required to achieve operational level competence in ship operations and shipboard personnel management in accordance with the competency standards for Master Mariners set out in the 2010 Amendment to the International Convention on Standards of Training, Certification and Competency for Seafarers 1978 (STCW).	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG8、SDG16、SDG17
2022	Undergraduate	B711308H	3	A	工程數學	Engineering Mathematics	本課程遵照國際海事組織(IMO) Model Course 7.03 Supporting Knowledge Outline- Mathematics之規範，兼顧相關必要知識或技能之傳授，編排以下授課內容; 介紹工程分析上常用的數學工具，使學生能在建立之數學模式中尋求其解答，並能藉由數學模式之演算過程去解決實際之應用問題。	Introduce the engineering problem by mathematical technique. Teach the student to establish mathematical model, then solve the mathematical model to understand the application problem.	2	Required Course	商船學系 Department of Merchant Marine	SDG4、SDG10

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2022	Contiuning Education Master Degree Program	T4A010O9	1	A	空間決策分析	Spatial Decision Analysts	本課程為空間（地理）資訊系統之實務應用課程，係針對碩專班同學之實務需要，由GIS圖資建構及各項分析功能開始，詳細介紹各領域如何應用GIS、全球定位系統GPS與遙測RS相關技術，並配合實例應用說明和上機操作，使同學除可具備基本處理空間資訊之能力外，更能熟悉及瞭解GIS的分析流程與制訂GIS研究方法之程序，以協助解決目前研究、工作或生活中所遭遇的各類型空間決策問題。	This course is a practical application of spatial (geographic) information system. It is designed to meet the practical needs of master's degree students, starting from the construction of GIS maps and various analytical functions, and introduces in detail how to apply GIS, GPS, and Remote Sensing RS related technologies in various fields, and is accompanied by real-life examples of application notes and on-line operations, so that students can not only be equipped with basic spatial information processing skills, but also be familiar with and understand the analytical process of GIS and the procedures of formulating GIS research methodologies, which can help to solve the various kinds of spatial decision-making problems encountered in their current research, work, or daily life.	2	Elective Course	商船學系碩士在職專班 Department of Merchant Marine	SDG9、SDG11、SDG14、SDG15、SDG16
2022	Contiuning Education	T4A0139W	1	A	商船綜論	Merchant Ship Synthesis	1. 提供廣泛的商船相關資訊。 2. 使學生具備船藝進階知識。	1. Provide broad information on the Merchant ships. 2. Provide students with advanced knowledge of seamanship.	2	Elective Course	商船學系碩士在職專班 Department of Merchant Marine	SDG4、SDG14、SDG15、SDG17
2022	Contiuning Education Master Degree Program	T4A011BH	1	A	海難事故與人為因素	The Human and Organisational Factors involved with in Marine Casualties	資料顯示約80%的海難事故均肇因於人為因素(Human and Organisational Factors, HOFs)，這些人為因素並非僅限於事故現場之工作人員，亦包括遠在公司總部制定決策之高層，及設計製造施作器械之製造商。故，使學員正確認知事故中，各階層之人為因素所扮演的角色為本課程之主要目標。	According to statistics, about 80% of maritime accidents are caused by Human and Organisational Factors (HOFs), which are not only confined to the staff at the scene of the accident, but also include the senior management who make decisions far away from the company's head office, and the manufacturers who design and build the operational equipment. Therefore, the main objective of this course is to enable participants to correctly understand the roles of human factors at all levels in an accident.	2	Elective Course	商船學系碩士在職專班 Department of Merchant Marine	SDG4、SDG14
2022	Contiuning Education Master Degree Program	T4A012IB	1	A	空間決策支援系統	Spatial Decision Support System	空間決策支援系統係運用電腦工具透過地理資訊系統(GIS)來整合各種不同來源的屬性及空間資訊，協助決策者擬訂最佳的空間決策，為近年來快速發展的科技之一。本課程設計係針對碩專班同學之需要，由GIS基本觀念入門，配合原理、架構、方法與應用方向等之介紹，並實機操作簡易之GIS視窗工具軟體，使同學具備處理空間資料之基本能力，再透過不同領域之應用實例模擬分析，以增進同學對空間決策支援系統建構及應用上之瞭解與熟悉。	Spatial Decision Support System (SDSS) is one of the fastest growing technologies in recent years, which uses computer tools to integrate attributes and spatial information from various sources through Geographic Information Systems (GIS) to assist decision makers in formulating optimal spatial decisions. This course is designed to meet the needs of master's degree students, starting from the basic concepts of GIS, with the introduction of the principle, structure, methodology, and application directions, and the on-site operation of simple GIS windows tool software, so as to equip students with the basic ability to handle spatial data, and then through the simulation and analysis of the application examples in different fields, to enhance students' understanding and familiarity with the spatial decision-making support system construction and application.	2	Elective Course	商船學系碩士在職專班 Department of Merchant Marine	SDG4、SDG8、SDG9、SDG11、SDG17
2022	Master Program	M7101MB5	1	A	數值方法與應用	Quantitative Analysis Methods and Their Applications	本課程之目的在使同學認識基本數值方法的觀念、技巧和適用情形，應用程式語言解決科學研究領域中大量數學運算所遭遇之問題。同時藉由MATLAB程式語言之介紹與實作，學習如何透過數值方法之概念撰寫清晰、簡潔、有效率且易於執行之應用程式，以協助處理數學、科學、工程、數據分析或統計運算等方面上的相關應用。	The purpose of this course is to introduce students to the concepts, techniques, and applications of basic numerical methods, and to apply the programming language to solve problems encountered in a large number of mathematical operations in the field of scientific research. Through the introduction and practice of MATLAB programming language, students will learn how to write clear, concise, efficient and easy-to-execute applications through the concepts of numerical methods to help them deal with related applications in mathematics, science, engineering, data analysis or statistical computing.	3	Elective Course	商船學系碩士班 Department of Merchant Marine	SDG8、SDG11
2022	Master Program	M710119V	1	A	計畫評估	Project Evaluation	本課程主要介紹計畫（或方案、策略、行動）評估之各種評估方法及在實務上的應用，訓練研究生瞭解計畫評估的技巧，以及在面臨決策問題時能做妥適的處理。本課程從傳統到現代，從單一準則到多準則，從定性（質化）到定量（量化）之各種評估方法，有系統加以整理與介紹。	This course introduces various evaluation methods and their practical applications in the evaluation of plans (or programmes, strategies, or actions), and trains graduate students to understand the skills of plan evaluation and to make appropriate decisions when facing decision-making problems. The course systematically organises and introduces various evaluation methods from traditional to modern, single to multi-criteria, and qualitative (qualitative) to quantitative (quantitative).	3	Elective Course	商船學系碩士班 Department of Merchant Marine	SDG8、SDG9、SDG11、SDG12、SDG13、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M710119U	1	A	事故肇因之分析技術	The Analysis Technologies for Accident Causalities	事故肇因之分析技術，目前以空運界所採用之方法，諸如由歐盟運輸暨國防部長（Ministers of Transport and Defence）轄下之SRC（Safety Regulation Commission）為空運管理（ATM, Air Traffic Management）所發展之SOAM（Systemic Occurrence Analysis Methodology），以及美國聯邦飛航總署（FAA, Federal Aviation Administration）所採用之HFACS（Human Factors Analysis and Classification System）為主流技術。這兩套技術其系統化的分析方法，以及層次分明的架構概念對於釐清空運事故當中之肇因及各項因素之間的因果關係，有相當的貢獻。隨後，課程將介紹關鍵值或概率之分析技術及這些方法又如何被運用在事故肇因之分析上。本課程主要目標是使得學員認識並了解，能以何種的技術來分析海難事故的人為因素，以及如何應用這些方法。希望能為學員帶來一些分析事故肇因的新觀念與啟示。	Currently, the methods used in the air transport industry to analyse the causes of accidents include SOAM (Systemic Occurrence Analysis Methodology) developed by the Safety Regulation Commission (SRC) of the EU Ministers of Transport and Defence for ATM (Air Traffic Management), and HFACS (Systemic Occurrence Analysis Methodology) used by the FAA (Federal Aviation Administration) in the United States. The SOAM (Systemic Occurrence Analysis Methodology) developed by the SRC (Safety Regulation Commission) under the Minister of Transport and Defence (Ministers of Transport and Defence) of the EU for ATM (Air Traffic Management), and the HFACS (Human Factors Analysis and Classification System) adopted by the FAA (Federal Aviation Administration) are the mainstays of the system. Analysis and Classification System (HFACS) adopted by the Federal Aviation Administration (FAA). The systematic analysis methodology and hierarchical framework concepts of these two techniques have contributed to the clarification of the causes and causal relationships between various factors involved in air transport incidents. The course will then introduce the techniques of critical value or probability analysis and how these methods are applied to the analysis of accident causes. The main objective of this course is to provide participants with an awareness and understanding of what techniques can be used to analyse human factors in maritime accidents and how these methods can be applied. It is hoped that this course will provide participants with some new ideas and insights into the analysis of accident causation.	3	Elective Course	商船學系碩士班 Department of Merchant Marine	SDG4、SDG14
2022	Master Program	M710139X	1	A	商船綜論	Merchant Ship Synthesis	1. 提供廣泛的商船相關資訊。 2. 使學生具備船藝進階知識。	1. Provide broad information on the Merchant ships. 2. Provide students with advanced knowledge of seamanship.	3	Elective Course	商船學系碩士班 Department of Merchant Marine	SDG3、SDG4、SDG9、SDG14、SDG15、SDG16、SDG17
2022	Master Program	M71010QH	1	A	計算航海學	Computational Navigation	隨著時代的變遷電子海圖顯示系統(ECDIS, Electronic Chart Display And Information System)為了安全的緣故要求高精度連續定位,GPS可以達到這要求這個，GPS的參考座標系統為WGS 84(World Geodetic System 1984)，雖然GPS定位非常精準;如果不準確航路規劃將會造成較大航行的誤差，以致於必須進行較大幅度及不經濟的連續修正航向,甚至航行到誤區產生航行安全的問題，因為GPS使用橢球體為參考座標，傳統上大圓航法的參考座標系統使用正圓球體，因此航程規劃所得的數據將會導致較大的誤差，如果將規劃航程使用的座標系統轉換成WGS 84參高座標系統，航路的規劃的精確性將會大大的提高。 本課程主要介紹WGS84地球座標系統,海圖投影,各種航線計算方式,以MATLAB之Map toolbox使用,Google Map的應用,各種定位求解方式。 本課程有以下的目標,可了解橢球座標系統的架構,海圖投影的方法,如何計算精密航線,並能夠利用電腦繪製海圖,應用Goole Map處理一些地理資訊問題,了解天文、沿岸標、衛星、手機基地台及各種地標的定位方法。	The science of Navigation has entered the electronic era with a great deal of enthusiasm and energy. Man-made sateliite have replaced the stars in the attention of the moderd navigator. The science is moving forward at a fast rate. But, during this time of great change, we have not perhaps paused to think how the classical methods of navigation seems to be deliberately designed to avoid the use of the calculus. For this reason methods are still in use which are only approximations.	3	Elective Course	商船學系碩士班 Department of Merchant Marine	SDG1、SDG2、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	Master Program	M7111I38	1	A	專題討論	Special Topics in Merchant Marine	1. 研讀及理解商船領域之重要特殊課題 2. 對商船領域之重要特殊課題提出心得報告	1. Reading and comprehension to special topics in Merchant Marine field. 2. Presentations to the special topics in Merchant Marine field.	1	Required Course	商船學系碩士班 Department of Merchant Marine	SDG4、SDG5、SDG17
2022	Contiuning Education Bachelor Degree Program	E4A01PST	1	B	人員求生技能	Personal Survival Techniques	本課程係依照國際海事組織(IMO)典範課程Model Course 7.03-3.4 Operate Life-Saving Appliances與-3.8 Contribute to Safety of Personnel and Ship之規範，並參考Model Course 1.19 Proficiency in Personal Survival Techniques、1.23 Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats及1978年STCW國際公約2010修正案規則VI/1, VI/2、SOLAS國際公約和LSA章程等最新修正的相關內容，兼顧相關必要知識或技能之傳授，教導同學認識、瞭解海洋環境之限制及其可能的風險，同時熟悉各項海上求生的專業知識與技能，進而掌握和控制在船舶異常狀況下個人如何有效避免危難之發生，並應付危難中的各種困境，以達求生之目的。	Based on the International Maritime Organization (IMO) Model Course 7.03-3.4 Operate Life-Saving Appliance specifications, 7.03-3.8 Contribute to Safety of Personnel and Ship and refer to Model Course 1.19 Proficiency in Personal Survival Techniques, 1.23 Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats, as well as STCW (1978, as amended in 2010, in Regulation VI/1 and VI/2) convention with the latest amended relevant contents of LSA code and SOLAS convention, this course takes the necessary knowledge and skills into account to teach students to understand the limitations of the marine environment and its possible risks, as well as to be proficiency in personal survival techniques at sea. In addition, it is also important to let the students know how the survivor at sea could control and deal with a varied of situation in distress, and then effectively avoid the occurrence of danger before rescuing, since the ship was in distress.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG3、SDG4、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Bachelor	E4A01P06	1	B	電子航海	Electronic Navigation	使學生瞭解各式電子航儀之基礎理論及實務應用。	This course provides the understanding of basic theory and practicing knowledge regarding electric navigation equipment.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG14
2022	Contiuning Education Bachelor Degree Program	E4A01V3K	1	B	避碰規則與航行當值	Collision Regulation & Watchkeeping	本課程內容係依據STCW章程第II章第II/1節表A-II/1及第II/2節表A-II/2之規定，並遵照國際海事組織(IMO) Model Course 7.03-1.1.1 (Celestial Navigation)及Model Course 7.01-1.2.1(Position determination in all conditions) 之規範，兼顧相關必要知識或技能之傳授，編排以下授課內容： 1.國際海上船舶避碰 2.了解國際避碰規則 3.船舶航行安全措施 4.航行燈號音響信號	The content of this course is based on the STCW Constitution, Chapter II, Section II/1, Table A-II/1 and Section II/2, Table A-II/2, and in accordance with the requirements of the International Maritime Organisation (IMO) Model Course 7.03-1.1.1 (Celestial Navigation) and Model Course 7.01-1.2.1 (Position determination in all conditions), and is designed to impart the necessary knowledge or skills. Position determination in all conditions), and taking into account the transfer of related necessary knowledge or skills, the following course contents are arranged: 1. International collision avoidance 2. Understanding international collision avoidance rules 3. Safety measures for ship navigation 4. Navigational light and sound signals.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG8、SDG9、SDG10、SDG11、SDG15、SDG17
2022	Contiuning Education Bachelor Degree	E4A01VGN	1	B	地文航海	Geo-Navigation	使學生能學得符合「1978年航海人員訓練、發證及當值標準國際公約1995年修正案」航海專長適任標準中,有關地文航海的「操作級」及「管理級」海員。	To enable students to learn to meet the "Operational Level" and "Management Level" seafarers related to territorial navigation in the 1995 Amendment to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978.	4	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG17
2022	Contiuning Education Bachelor Degree Program	E4A021R2	2	A	操船模擬	Ship Handling and Simulation	本課程遵照國際海事組織(IMO)Model Course 7.03-1.3 Use of Radar and ARPA to Maintain Safety of Navigation 雷達及自動測繪雷達之使用以維持航行安全; 及(IMO Model Course No.1.07 and STCW 1995 Regulation 1/12), 及 1.2.1 Knowledge of the Collision Regulation 避碰規則知識。1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles in Keeping a Navigational Watch 艙面當值; 1.1.3 Electronic Systems of Position Fixing and Navigation 電子定位及導航系統等之規範;兼顧相關必要知識或技能之傳授，編排以下授課內容。 學生利用ARPA模擬機及操船模擬機之操作能學習下列事項： 1. 熟悉駕駛台之各項設備及功能 2. 操作各項設備 3. 舵令、俥鐘的熟悉與應用 4. 觀測船舶間之動態 5. 練習船舶避讓	This Code complies with International Maritime Organisation (IMO) Model Course 7.03-1.3 Use of Radar and ARPA to Maintain Safety of Navigation; and (IMO Model Course No. 1.07 and STCW 1995 Regulation 1/12), and 1.2.1 Knowledge of the Collision Regulation. 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2.1 Knowledge of the Collision Regulation. (IMO Model Course No.1.07 and STCW 1995 Regulation 1/12), and 1.2.1 Knowledge of the Collision Regulation 1.2.1.1 Content, application and intent of COLREG 1972; 1.2.2 Principles in Keeping a Navigational Watch; 1.1.3 Electronic Systems of Position Fixing and Navigation Electronic Positioning and Navigation Systems, etc.; taking into account the transfer of related necessary knowledge or skills, the following course content is arranged. The course content is as follows. Students will learn the following by operating the ARPA simulator and the ship-handling simulator: 1) Familiarise themselves with the equipment and functions of the cockpit. 2. operate various equipment 3. familiarise themselves with the rudder command and the use of the bell. 4. Observe the ship's dynamics 5. practise ship avoidance	2	Elective Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Contiuning Education Bachelor Degree Program	E4A011KG	1	B	保全職責	Security Duty	本課程遵照國際海事組織(IMO)Model Course 3.26, STCW 公約規則 VI/6、章程 A-VI/6 與表 A-VI/6-2 之規範，兼顧相關必要知識或技能之傳授，期使達到以下教學目標： 1.了解當前的保全威脅和類型; 2.識別和偵測武器，危險物質和裝置; 3.在非歧視的基礎上承認可能威脅到安全的人的特徵和行為; 4.用於規避安全措施的技術; 5.群眾管理和控制技術; 6.與安全有關的通信; 7.應急程序和應急計劃的知識; 8.安全設備和系統的運行; 9.保全設備和系統的測試，校準和海上維護; 10.檢查、控制和監測技術; 和 11.人員、個人物品、行李、貨物和船舶商店的實物搜查方法。	This course follows the norms of the IMO Model Course 3.26, STCW Convention Rule VI/6, Code A-VI/6 and Table A-VI/6-2, taking into account the transfer of relevant necessary knowledge or skills, so as to achieve the following teaching objectives: 1.knowledge of current security threats and patterns; 2.recognition and detection of weapons, dangerous substances and devices; 3.recognition, on a non-discriminatory basis, of characteristics and behavior alpatterns of persons who are likely to threaten security; 4.techniques used to circumvent security measures; 5.crowd management and control techniques; 6.security related communications; 7.knowledge of emergency procedures and contingency plans; 8.operation of security equipment and systems; 9.testing, calibration and at-sea maintenance of security equipment and systems; 10.inspection, control, and monitoring techniques; and 11.methods of physical searches of persons, personal effects, baggage, cargo, and ship stores.	1	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Bachelor Degree Program	E4A011DU	1	B	船舶通訊與GMDSS	Marine Communication and GMDSS	本課程內容係依據STCW章程第II章第II/1節表A-II/1及第II/2節表A-II/2之規定，並遵照國際海事組織(IMO) Model Course 7.03-1.6 (RESPOND TO A DISTRESS SIGNAL AT SEA)、Model Course 7.03-1.8(TRANSMIT AND RECEIVE INFORMATION BY VISUAL SIGNALLING) 及Model Course 1.25–GMDSS通用級值機員發證(General Operator"s Certificate for the GMDSS)之規範。兼顧相關必要知識或技能之傳授來規劃課程，使學生瞭解此項設備之必要資訊及具備操縱該系統之基本知識。	In comply with the STCW convention, this course follows IMO Model Course 1.25 (General Operator's Certificate for the GMDSS) lecturing the relevant knowledge of maritime communication, including the theory of GMDSS, to ensure that the trainees are capable of managing those equipments onboard ship with necessary skills.	3	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG14
2022	Contiuning Education Bachelor Degree Program	E4A01C06	1	A	海事法規	Maritime Administrative Law	本課程遵照國際海事組織(IMO)Model Course7.03-3.1 Ensure Compliance with pollution of the Marine Environment　&3.6.1 Basic working Knowledge of the Relevant IMO Conventions concerning SOLAS and MARPOL之規範,兼顧相關必要知識或技能之傳授,編排以下授課內容。	This course follows the International Maritime Organization (IMO) Model Course 7.03-3.1 Ensure Compliance with pollution of the Marine Environment & 3.6.1 Basic working Knowledge of the Relevant IMO Conventions concerning SOLAS and MARPOL specifications take into account the transfer of relevant necessary knowledge or skills, and the following course contents are arranged.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG3、SDG4、SDG8、SDG14、SDG15、SDG17
2022	Contiuning Education Bachelor	E4A01I3O	1	B	基本滅火	Fire Prevention and Fire Fighting	本課程內容係遵照IMO 之Model course 1.20之規定編排而成者,期使學生能夠熟悉船滅火作業之方法、特性、作業程序、安全作業守則和緊急應變措施。	The objective of this course is to establish students' are expected to be familiar with the methods,characteristics, operating procedures,safety operation rules and emergency response measures of ship fire-fighting operations.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG14
2022	Contiuning Education Bachelor Degree Program	E4A02K2B	2	B	船舶操縱	Ship Handling	本課程遵照國際海事組織(IMO)Model Course 7.03-1.8.1 Ship maneouvring and Handling 船舶操縱之規範;包括:: 1.8.1.1 Turning circles and stopping distance. 1.8.1.2 Effect of wind and current on ship handling. 1.8.1.3 Maneouvres for rescue of person overboard. 1.8.1.4 Squat, shallow water and similar effects. 1.8.1.5 Proper procedures for anchoring and mooring.兼顧相關必要知識或技能之傳授，編排以下授課內容。 使學生瞭解船舶的基本屬具和操縱設備，使操船者在當時外界環境條件下，利用船舶本身特性與方法，保持或改變船舶運動達到安全航行的分析、判斷、指揮之作業。	This course follows (IMO)Model Course 7.03-1.8.1 Specifications for Ship maneouvring and Handling include: 1.8.1.1 Turning circles and stopping distance. 1.8.1.2 Effect of wind and current on ship handling. 1.8.1.3 Maneouvres for rescue of person overboard. 1.8.1.4 Squat, shallow water and similar effects. 1.8.1.5 Proper procedures for anchoring and mooring.Give consideration to the teaching of relevant necessary knowledge or skills,and arrange the following teaching contents. To enable students to understand the basic accessories and operating equipment of the ship , so that the ship operator can use the characteristics and methods of the ship to maintain or change the ship"s motion under the current external environment conditions to achieve the analysis,judgment and command of safe navigation	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG14
2022	Contiuning Education Bachelor Degree Program	E4A02K56	2	A	貨物作業	Cargo Work	本課程遵照國際海事組織(IMO)Model Course 7.03-2.1.1(The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship)與2.1.2(Safe Handling, Stowage and Securing of Cargoes)、以及physics(物理)之規範，兼顧相關必要知識或技能之傳授，期使達到以下教學目標： 1.使學生瞭解各類貨物之裝卸與儲存原則 2.使學生瞭解各種專業船舶之貨物裝卸特性 3.使學生瞭解貨物裝卸與儲存對船舶安全之影響	This course follows the International Maritime Organization(IMO) Model Course 7.03-2.1.1 (The Effect of Cargo, Including Heavy Lifts on the Sea-worthiness and Stability of the Ship) and 2.1.2 (Safe Handling, Stowage and Securing of Cargoes), and the specification of physics, taking into account the transfer of the relevant necessary knowledge or skills, so as to achieve the following teaching objectives: 1. Enable students to understand the principles of loading and unloading and storage of various types of cargoes. 2. Enable students to understand the cargo handling characteristics of various professional ships. 3. Enable students to understand the impact of cargo handling and storage on ship safety.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG8、SDG13、SDG14、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Bachelor Degree Program	E4A02PGD	2	B	救生艇筏及救難艇筏操縱	Proficiency in Survival Craft and Rescue Boat	本課程係依照國際海事組織(IMO) Model Course 7.03-3.4 Operate Life-Saving Appliances之規範，並參考Model Course 1.23 Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats及1978年STCW國際公約2010修正案規則VI/2、SOLAS國際公約和LSA章程等最新修正的相關內容，兼顧相關必要知識或技能之傳授，教導同學認識且能正確操作使用救生艇、救難艇、救生筏、救生衣、浸水衣、救生圈等救生裝備，同時熟悉各項求生通訊設備使用、遇險信號發送、傷患急救處置、直昇機吊掛裝備與救援方式、救生艇和救難艇的保養檢查，及惡劣天候下之艇筏操縱等專業知識與技能，進而掌握和控制在船舶異常狀況下個人與全船旅客如何有效避免危難之發生，並應付危難中的各種困境，以達自救與救人之目的。	This course is based on the International Maritime Organisation (IMO) Model Course 7.03-3.4 Operate Life-Saving Appliances with reference to Model Course 1.23 Proficiency in Survival Craft and Rescue Boats, other than Fast Rescue Boats and the latest amendments to the STCW International Convention 2010 Amendment Code VI/2, the SOLAS International Convention and the LSA Code. other than Fast Rescue Boats and the latest amendments to the STCW International Convention of 1978, Amendment VI/2, the SOLAS International Convention and the LSA Constitution, etc., and taking into account the transfer of necessary knowledge or skills, students are taught to understand and be able to correctly operate and use the life-saving equipment such as lifeboats, rescue boats, rafts, lifejackets, immersion suits, and lifebuoys, and to be familiar with the life-saving equipment. At the same time, students will be familiar with the use of various survival communication equipment, distress signal transmission, first aid treatment of injuries, helicopter lifting equipment and rescue methods, maintenance and inspection of lifeboats and rescue boats, as well as raft manoeuvring under adverse weather conditions, etc., so as to further master and control how to effectively avoid the occurrence of danger and cope with all kinds of difficulties in the ship's abnormal conditions. The purpose of self-rescue and rescue.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG4、SDG5、SDG17
2022	Contiuning Education Bachelor	E4A020N0	2	B	人命安全與防止海洋污染	SOLAS and MARPOL	1. 使學生瞭解海上人命安全公約與相關章程之內容。 2. 使學生瞭解防止海洋污染公約之內容。	1. Make students aware of the content of the Convention on the Safety of Life at Sea and related regulations. 2. Make students aware of the content of the Convention on the Prevention of Marine Pollution.	2	Required Course	商船學系學士後多元專長培力課程專班 Department of Merchant Marine	SDG3、SDG6、SDG7、SDG14、SDG15、SDG17
2022	Contiuning Education Master Degree	T4F010M2	1	A	論文寫作與評析	ThesisWritingandEvaluation	一、學生能了解論文寫作的內涵。 二、學生能具有論文寫作與評析的能力。 三、學生能初步撰寫與發表研究計畫。	1.students can understand the contents of dissertation writing. 2.students can get the ability of dissertation writing and evaluating. 3.students can write and present the original dissertation.	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG3、SDG4、SDG5、SDG10
2022	Contiuning Education Master	T4F023MY	2	A	道德教育專題	Special issue on moral education	1.了解道德教育的內涵與重要性 2.探究道德教育的教學與實踐方法 3.能將道德教育應用於學校教學	1.understanding the implication and significance on moral education 2.discussing teaching methods on moral education 3.practicing moral education into school education	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG3、SDG4、SDG5、SDG10、SDG10、SDG11、SDG16、SDG16
2022	Contiuning Education Master Degree Program	T4F011IY	1	A	數位學習理論與實務專題	Special Topics on eLearning theories and Practicess	1.瞭解數位學習與資訊科技融入教學的理論基礎與教學模式。 2.知曉教學媒體與學習科技之相關議題與趨勢。 3.奠定學生在媒體傳播與學習科技領域學習之宏觀視野與自學能力。	1.Understanding the learning theories and instructional design models of multimedia learning/integrating educational technology into teaching 2.Knowing relevant issues of multimedia learning and learning technologies 3.Students can have a big picture about multimedia learning and learning technologies	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG4、SDG4、SDG10、SDG10
2022	Contiuning Education Master Degree Program	T4F012IY	1	A	教育哲學與實踐	Educational Philosophy and Practice	一、能認識教育哲學的基本內涵。 二、能蒐集及理解教育哲學相關議題資料及報告學習心得。 三、能針對選定之教育哲學研究主題進行專題研究及報告。 四、能常用學習所得之教育哲學內涵思考現代相關教育問題。	1.T o be able to understand the basic connotation of philosophy of education. 2. To be able to collect and understand information and report on the study of the philosophy of education. 3. To be able to conduct research and report on selected topics in philosophy of education. 4. To be able to think about modern education issues with the content of philosophy of education.	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG4
2022	Contiuning Education Master Degree	T4F010M0	1	A	教育研究法	EducationalResearchMethods	一學生能了解教育研究的基本概念 二學生能了解並使用各種教育研究方法 三學生能撰寫與發表論文構想計畫	1.Students can understand the basic concepts of educational research. 2.Students can understand and use the different methods of educational research. 3.Students can write and present the dissertation proposal.	3	Required Course	教育研究所碩士在職專班 Institute of Education	SDG4、SDG11
2022	Contiuning Education Master Degree Program	T4F010M0	1	B	教育研究法	EducationalResearchMethods	(1)瞭解教育研究之意涵與目的。 (2)瞭解教育研究之類型與方法。 (3)具備文獻蒐集與整理之技巧。 (4)具備教育研究之基礎知識與技能。 (5)產出教育研究論文構想書。	(1) To understand the meaning and purpose of educational research. (2) Understand the types and methods of educational research. (3) To have the skills of collecting and organising literature. (4) Possess basic knowledge and skills in educational research. (5) Produce a thesis proposal for educational research.	3	Required Course	教育研究所碩士在職專班 Institute of Education	SDG4、SDG14、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Master Degree Program	T4F122JR	2	A	海洋與教育專題討論	Seminar on Marine Subjects and Education	我國海洋環境教育正是海洋立國最為基礎的工作，因此實施國民中小學「海洋環境教育」之課程十分重要。本課程旨在培養海洋環境教育基礎知識與發掘探討海洋環境教育問題並進而引發研究海洋教育專題的興趣與能力。	his seminar course is offered with an aim at helping graduate students to fulfill their thesis research and also provides opportunities to keep communicating their research results with advisors. In addition, the topics can be discussed in this course include the past global changes in all earth systems including ocean, atmosphere, and solid earth. This course is open to the second year graduate students in Applied Geophysics Program.	1	Required Course	教育研究所碩士在職專班 Institute of Education	SDG5、SDG6、SDG14、SDG16、SDG17
2022	Contiuning Education Master Degree Program	T4F011IY	1	A	數位學習理論與實務專題	Special Topics on eLearning theories and Practicess	1.瞭解數位學習與資訊科技融入教學的理論基礎與教學模式。 2.知曉學習科技融入教學之相關議題與趨勢。 3.奠定學生在學習科技融入教學之宏觀視野與自學能力。 4.知曉以學習者為中心的觀點並應用在教學上。	1.Understanding the learning theories and instructional design models of multimedia learning/integrating educational technology into teaching 2.Knowing relevant issues of multimedia learning and learning technologies 3.Students can have a big picture about multimedia learning and learning technologies	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG4、SDG4、SDG10、SDG10
2022	Contiuning Education Master Degree Program	T4F01NB9	2	A	資訊與網路資源在教育研究上的應用	Research on Computer and Network Application in Education	1.了解資訊及網路資源在教育研究上的功能及應用. 2.熟悉各種相關議題的網路資源. 3.熟練資料查尋技術及重要資訊來源. 4.練習資訊網站設計. 5.評鑑網路資訊.	1. Understand the functions and applications of information and online resources for educational research. 2. familiarity with online resources on a variety of relevant topics. 3. Be familiar with data searching techniques and important sources of information. 4. Practise informative web site design. 5. Evaluate web-based information.	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG4
2022	Contiuning Education Master Degree Program	T4F020M7	1	A	創思教學專題	SpecialTopicon CreativityCultivatingTeaching	人類文明的發展實際上正是一部創造力的歷史。創造力是高層次思考的表現，亦是教育的重要議題。創造思考是個人心智運作與其動機、人格特質、知識、社會文化等因素互動，形成具獨創性（新穎）和實用性（價值）構想，以解決問題的歷程與能力（張世彗，2013）。 本課程先以人類心智的理論為基礎，探討創造力的內涵及其相關議題。其次，再由教育的視角，探討各種融入創造思考的課程與教學設計，從觀摩與體驗中增進創造力培育的實踐知能。期望同學們能運用創造思考的關鍵策略，發揮團隊智慧，設計並鑑賞創造思考的相關作品，以成為富創造力的T型人才自許。整體而言,本課程的目標如下: (一) 瞭解創造思考的基本理論 (二) 探討創造思考教學的相關案例 (三) 運用創造思考的教學策略 (四) 設計與鑑賞創造思考教學	This course based on human mind, exploring the connotation of creativity and related issues. After that, by views of education to discuss some teaching plan, which involved creative thinking; on the other hand, though watch and experience to develop ourselves creative ability. Students are expected to use the key strategies of creating thinking, use the wisdom of the team, design and appreciate the relevant works, in order to become a creative T-type person. Overall, the objectives of this course are as follows: (一)Understand the basic theory of creative thinking. (二)Understand the basic theory of creative thinking. (三)Use the strategies of creative thinking. (四)Creative Thinking Design and Appreciation	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG4
2022	Contiuning Education Master	T4F023MY	1	A	道德教育專題	Special issue on moral education	1.了解道德教育的內涵與重要性 2.探究道德教育的教學與實踐方法 3.能將道德教育應用於學校教學	1.understanding the implication and significance on moral education 2.discussing teaching methods on moral education 3.practicing moral education into school education	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG3、SDG4、SDG5、SDG10、SDG10、SDG11、SDG16、SDG16
2022	Contiuning Education Master Degree Program	T4F014LE	1	A	教師哲學與實踐	Teacher Philosopy and Its Practice	（一）能體認擔任教師應該擁有的哲學思維。 （二）能透過不同管道來獲得與提升教師哲學。 （三）能省察自己的教學及實踐自己的哲學思維。	(a) To recognise the philosophical thinking expected of a teacher. (b) To be able to acquire and enhance their philosophies through different channels. (c) To be able to reflect on one's own teaching and to practise one's own philosophical thinking.	2	Elective Course	教育研究所碩士在職專班 Institute of Education	SDG4
2022	Master Program	M9A010M2	1	A	論文寫作與評析	Thesis Writing and Evaluation	一、學生能了解論文寫作的內涵。 二、學生能具有論文寫作與評析的能力。 三、學生能初步撰寫與發表研究計畫。	1.students can understand the contents of dissertation writing. 2.students can get the ability of dissertation writing and evaluating. 3.students can write and present the original dissertation.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG3、SDG4、SDG10
2022	Master Program	M9A012ON	1	A	數位學習理論專題	Special Topics on Learning Theories	1.瞭解數位學習與資訊科技融入教學的理論基礎與教學模式。 2.知曉教學媒體與學習科技之相關議題與趨勢。 3.奠定學生在媒體傳播與學習科技領域學習之宏觀視野與自學能力。	1.Understanding the learning theories and instructional design models of multimedia learning/integrating educational technology into teaching 2.Knowing relevant issues of multimedia learning and learning technologies 3.Students can have a big picture about multimedia learning and learning technologies	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4、SDG10
2022	Master Program	M9A01ED3	1	A	教育哲學研究	Study on Educational Philosophy	一、能認識教育哲學的基本內涵。 二、能蒐集及理解教育哲學相關議題資料及報告學習心得。 三、能針對選定之教育哲學研究主題進行專題研究及報告。	1.To be able to understand the basic connotation of philosophy of education. 2.The student will be able to collect and understand information and report on the topics related to the philosophy of education. 3.The student will be able to conduct research and report on selected topics in the philosophy of education.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M9A02P9K	2	A	質性研究	Research on Qualitative Approach	（一）讓學生認識質性研究之理論與方法。 （二）讓學生進入實際場域練習質性研究之技巧。 （三）增進學生詮釋與反省文獻資料之能力。 （四）提高學生對教育問題之敏感度。	(1) To enable students to understand the theories and methods of qualitative research. (2) To allow students to practice qualitative research techniques in real-life situations. (3) To enhance students' ability to interpret and reflect on literature. (4) To enhance students' sensitivity to educational issues.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4
2022	Master Program	M9A013GQ	1	A	海洋教育師資專題	Issue on teacher of marine education	一、學生能了解海洋教育師資的基本概念、現況與專業標準。 二、學生能探究或體驗海洋教育師資需求、培育與專業發展模式、途徑或活動。 三、學生能從事海洋教育師資的專業評鑑與省思，以提升海洋教育師資的專業效能。	1.students can make sense of critical concepts, status and professional standards on marine education teacher. 2.students can explore the needs, cultivation, and models, approaches, and activities of teacher professional development. 3.students can be engaged in evaluating and reflecting teacher""s profession to increase the effectiveness of marine educational teacher professional development.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG11、SDG13、SDG14
2022	Master Program	M9A013S0	1	A	自然科學探究與實作專題	Special Topics on Science and Practice	1.瞭解科學探究與實作的概念與意義 2.瞭解科學探究與實作背後的理論基礎 3.瞭解如何將科學探究與實作的理念應用於教學中	The main objective aims to enrich pre-service teachers' knowledge and conceptions about scientific inquiry and practices. It is hoped that pre-service teachers can apply them to their science teaching in the future.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4、SDG14
2022	Master Program	M9A02SH3	2	A	學校輔導專題	Special Topic on School Counseling	本課程以正向心理學為基礎，從心理健康的觀點，探究與學校輔導相關的理論與原則，如情緒與動機、依附與認同、正向心理特質、幸福感與復原力、人際關係與衝突等；再從學校輔導的實務面，探討實務的作法與相關議題，以及個別興趣主題的探究。希望這樣的設計能使學習者先在較廣泛的理論與實務背景中，建立自選議題的可能脈絡與定位，發展對學校輔導議題的深度理解與觀點。本課程希望學習者於學習結束後，能展現以下學習成果： (一) 了解學校輔導之相關理論基礎與意義。 (二) 探討學校輔導之相關議題與研究的啟示。 (三) 樂於發展促進學生心理健康的學校輔導策略。	(A) learn about theories related to mental health, motivation, and emotions. (B) analysis of the status and development of school counseling practice. (C) recognize the relevant issues of school counseling and research findings. (D) willing to develop the school counseling strategy to promote students""""""" mental health.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG3、SDG4、SDG5
2022	Master Program	M9A011CJ	1	A	教育史研究	Study on History of Education	（一）能從歷史觀點看待教育的重要性 （二）了解不同歷史時期教育的演變與發展 （三）培養對教育史的洞識與批判能力	1. Understand the significance of looking at education from historical perspectives 2. Explore the development of educational institution and thought in different era 3. Develop the insight and individual criticism of history of education	2	Elective Course	教育研究所碩士班 Institute of Education	SDG3、SDG4、SDG10、SDG16
2022	Master Program	M9A021NS	2	A	教學媒體與科技專題	Special Topic on Instructional Media and Technology	1.瞭解教學中媒體的應用。 2.熟悉使用各種教學媒體。 3.培養創作教學媒體之能力。	1. Understand the use of media in teaching and learning. 2. To become well-versed in various teaching media. 3. To develop the ability to create teaching media.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4
2022	Master Program	M9A010M0	1	A	教育研究法	Educational Research Methods	一學生能了解教育研究的基本概念 二學生能了解並使用各種教育研究方法 三學生能撰寫與發表論文構想計畫	1.Students can understand the basic concepts of educational research. 2.Students can understand and use the different methods of educational research. 3.Students can write and present the dissertation proposal.	3	Required Course	教育研究所碩士班 Institute of Education	SDG4、SDG11
2022	Master Program	M9A012J1	1	A	海洋教育特論	Special Topic on Marine Education	訓練學生具備以下知識 一、海洋教育的重要性 二、海洋教育的範圍 三、海洋教育的理論基礎 四、海洋教育發展概況 五、海洋教育的推動組織 六、海洋教育的課程發展 七、海洋教育的教學實踐 八、海洋素養與學習評量	To train students to have the following knowledge 1.The importance of marine education 2.The scope of marine education 3.Theoretical basis of marine education 4.Overview of the development of marine education 5.Organisations promoting marine education 6.Curriculum Development of Marine Education 7.Teaching Practice of Marine Education 8.Marine Literacy and Learning Assessment	2	Required Course	教育研究所碩士班 Institute of Education	SDG4、SDG11、SDG14
2022	Master Program	M9A010E0	1	A	教師哲學專題	Special Topic on Teacher Philosophy	（一）讓學生體認擔任教師應該擁有的哲學思維。 （二）培養學生透過不同管道來獲得與提升教師哲學。 （三）培養學生對教師實際教學行為的觀察與省思。	(1) To enable students to recognise the philosophical thinking that should characterise a teacher. (2) To nurture students to acquire and enhance teachers' philosophies through different channels. (3) To cultivate students' observation and reflection on teachers' actual teaching behaviour.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4
2022	Master Program	M9A01LN1	1	A	學習型組織專題	Special Topic on The Learning Organization	1. 了解學習型組織概念 2. 了解學習型組織的應用方式 3. 應用學習型組織概念在教育場域中 4. 建構師生海洋教育學習型團隊	(1)Understand the concept of leaning organization. (2)Understand the implication of learning organization. (3)Implicate learning organization into education field (4)Build up your own learning organization	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4、SDG14、SDG17

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2022	Master Program	M9A010M0	1	B	教育研究法	Educational Research Methods	(1)瞭解教育研究之意涵與目的。 (2)瞭解教育研究之類型與方法。 (3)具備文獻蒐集與整理之技巧。 (4)具備教育研究之基礎知識與技能。 (5)產出教育研究論文構想書。	(1) To understand the meaning and purpose of educational research. (2) Understand the types and methods of educational research. (3) To have the skills of collecting and organising literature. (4) Possess basic knowledge and skills in educational research. (5) Produce a thesis proposal for educational research.	3	Required Course	教育研究所碩士班 Institute of Education	SDG4、SDG14
2022	Master Program	M9A014LF	2	A	英文教育論文寫作	English Academic Writing on Educational Studies	1.培養英文教育論文的閱讀理解能力 2.了解英文教育論文的寫作格式與內容 3.能嘗試撰寫教育論文的英文摘要	1.Cultivating reading comprehension of English academic text 2.Understanding the writing format and content of educational English paper 3.Writing the English abstract of educational papers or theses	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4
2022	Master Program	M9A022OB	2	A	創造力教育專題	Special Topic on Creative Education	人類文明的發展實際上正是一部創造力的歷史。創造力是高層次思考的表現，亦是教育的重要議題。創造思考是個人心智運作與其動機、人格特質、知識、社會文化等因素互動，形成具獨創性（新穎）和實用性（價值）構想，以解決問題的歷程與能力（張世彗，2013）。 本課程先以人類心智的理論為基礎，探討創造力的內涵及其相關議題。其次，再由教育的視角，探討各種融入創造思考的課程與教學設計，從觀摩與體驗中增進創造力培育的實踐知能。期望同學們能運用創造思考的關鍵策略，發揮團隊智慧，設計並鑑賞創造思考的相關作品，以成為富創造力的T型人才自許。整體而言,本課程的目標如下: (一) 瞭解創造思考的基本理論 (二) 探討創造思考的主要議題 (三) 運用創造思考的相關策略 (四) 設計與鑑賞創造思考教學	This course based on human mind, exploring the connotation of creativity and related issues. After that, by views of education to discuss some teaching plan, which involved creative thinking; on the other hand, though watch and experience to develop ourselves creative ability. Students are expected to use the key strategies of creating thinking, use the wisdom of the team, design and appreciate the relevant works, in order to become a creative T-type person. Overall, the objectives of this course are as follows: (一)Understand the basic theory of creative thinking. (二)Understand the basic theory of creative thinking. (三)Use the strategies of creative thinking. (四)Creative Thinking Design and Appreciation	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4
2022	Master Program	M9A023MY	2	A	道德教育專題	Special issue on moral education	1.了解道德教育的內涵與重要性 2.探究道德教育的教學與實踐方法 3.能將道德教育應用於學校教學	1.understanding the implication and significance on moral education 2.discussing teaching methods on moral education 3.practicing moral education into school education	2	Elective Course	教育研究所碩士班 Institute of Education	SDG5、SDG10、SDG11、SDG16
2022	Master Program	M9A01NB9	1	A	資訊與網路資源在教育研究上的應用	Research on Computer and Network Application in Education	1.了解資訊及網路資源在教育研究上的功能及應用. 2.熟悉各種相關議題的網路資源. 3.熟練資料查尋技術及重要資訊來源. 4.練習資訊網站設計. 5.評鑑網路資訊.	1. Understand the function and application of information and internet resources in educational research. 2. Be well-versed in web resources on a variety of related topics. 3. Be well-versed in data search techniques and important information sources. 4. Practice information website design. 5. Evaluate web-based information.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4、SDG17
2022	Master Program	M9A020BD	2	A	行動研究	Action Research	（一）能認識行動研究之理論與方法。 （二）能了解行動研究與創新教學之間的關係。 （三）能進入教育現場練習行動研究之技巧。 （四）能提高對教育問題之敏感度與解決問題的能力。	(1) To be able to understand the theories and methods of action research. (2) To understand the relationship between action research and innovative teaching. (3) To practice action research techniques in educational settings. (4) To enhance sensitivity to educational problems and problem-solving skills.	2	Elective Course	教育研究所碩士班 Institute of Education	SDG4
2022	Master Program	M9A122JR	2	A	海洋與教育專題討論	Seminar on Marine Subjects and Education	我國海洋環境教育正是海洋立國最為基礎的工作，因此實施國民中小學「海洋環境教育」之課程十分重要。本課程旨在培養海洋環境教育基礎知識與發掘探討海洋環境教育問題並進而引發研究海洋教育專題的興趣與能力。	his seminar course is offered with an aim at helping graduate students to fulfill their thesis research and also provides opportunities to keep communicating their research results with advisors. In addition, the topics can be discussed in this course include the past global changes in all earth systems including ocean, atmosphere, and solid earth. This course is open to the second year graduate students in Applied Geophysics Program.	1	Required Course	教育研究所碩士班 Institute of Education	SDG6、SDG11、SDG14、SDG15、SDG16、SDG17
2022	Undergraduate	B6C03629	3	A	控制實習	Control Systems Laboratory	經由實驗瞭解基礎控制理論及自動控制系統之應用.	Understand the basic control theory and the application of automatic control system through experiments.	2	Required Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG9
2022	Undergraduate	B6C03625	3	A	自動控制	Automatic Control Systems	介紹基礎控制理論及自動控制系統之應用.	Introduces basic control theory and applications of automatic control systems.	3	Required Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B6C011IX	1	A	通訊.導航與控制概論	Introduction to Communications, Navigation and Control Engineering	介紹通訊.導航與控制之基本概論與產業概況,工程倫理	Introduce basic concepts of communications, navigation and control engineering.	1	Required Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4、SDG15
2022	Undergraduate	B6C044DP	4	A	產業接軌企業講座	Practice Lecture on Current Industry	本課程以介紹通訊業界最新ICT (Intelligent Communication Technology) 技術及其相關應用服務為主，可使學生充份了解產業發展方向與實務運作情形。課程內容將依不同主題安排業界代表進行演講，以利學生構思未來發展及就業方向。	This programme focuses on introducing the latest ICT (Intelligent Communication Technology) technology and its related application services in the communications industry, enabling students to fully understand the direction of industry development and practical operation. Presentations by industry representatives will be arranged according to different topics to help students think about their future development and career direction.	2	Elective Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG8、SDG9
2022	Undergraduate	B6C11M97	1	A	微積分	Calculus	1. 瞭解微積分的基礎知識 2. 具有應用微積分解決問題的能力	1. To have fundamental knowledge of Calculus 2. To have the ability to use calculus to solve problems	3	Required Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4、SDG8
2022	Undergraduate	B6C02993	2	A	計算機組織	Computer Organization	令學生瞭解現有計算機內部組織架構及控制方法並熟悉系統各單元架構運作情形。	To enable students to understand the internal organisational structure and control methods of existing computers and to familiarise them with the operation of system components.	3	Elective Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4、SDG9
2022	Undergraduate	B6C0339G	3	A	Python科學計算	Scientific Computing with Python	本課程的目標是為了讓同學能夠在學習微積分、線性代數、機率等數學工具之餘，能夠快速了解到這些數學的相關應用，透過圖形與視覺，體會數學之美，並且可以讓同學瞭解如何經由簡單的程式碼來解決複雜的數學計算。Python程式語言因為容易上手，功能強大，且為開源程式碼，近幾年來已成為最重要的科學計算語言之一，本課程的重點係以Python程式為主，教授同學各種科學計算的技巧。	The goal of this course is to provide students with a quick introduction to mathematical tools such as calculus, linear algebra, probability, and other related applications, to appreciate the beauty of mathematics through graphics and visuals, and to understand how to solve complex mathematical calculations with simple code. Python has become one of the most important scientific computing languages in recent years. This course focuses on Python programming and teaches students a variety of scientific computing skills.	3	Elective Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4
2022	Undergraduate	B6C0222M	2	A	工程數學(1)	Engineering Mathematics	旨在引導學生在修完微積分課程後能更明瞭一般工程問題的數學模式並為日後工程研究方法建立基礎。	Provide students with the mathematical knowledge and skills and support their concurrent and subsequent engineering studies.	3	Required Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4、SDG9
2022	Undergraduate	B6C120K8	2	A	電子電路實習	Electronic Circuits Laboratory	建立電子電路實作基礎,從實習中驗證理論,輔助並增進對電子電路相關課程的學習成效	To build up the foundation of electronic circuits, to validate theories through practice, and to supplement and enhance the learning effectiveness of electronic circuits related courses.	1	Required Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4
2022	Undergraduate	B6C0202I	2	A	訊息導論	Introduction to Information and Entropy	學習如何測量訊息容量; 資訊可以被壓縮到什麼程度; 如何有效的在不完美的通道上有效的通訊	Learn how to measure message capacity; how much a message can be compressed; how to communicate efficiently on imperfect channels	3	Elective Course	通訊與導航工程學系 Department of Communications, Navigation and Control Engineering	SDG4、SDG8、SDG9
2022	Master Program	M6701N14	1	A	智慧型系統概論	Intelligent Systems	介紹模糊系統,基因演算法,類神經網路及混合式智慧型系統之基本原理及應用	Introduction to the basic principles and applications of fuzzy systems, genetic algorithms, neural networks and hybrid intelligent systems.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG9
2022	Master Program	M6701T17	1	A	適應控制	Adaptive Control	介紹適應控制系統的構成原理及分析設計問題.	Introduces the principles of adaptive control systems and analyses design problems.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG9
2022	Master Program	M6701D8E	1	A	訊息與編碼理論	Information and Coding Theory	信息理論可被應用於計算機資訊，通訊，熱力學和其他科學。課程介紹數位信號和序列、編碼、壓縮、雜訊和機率、可逆和不可逆操作、生物系統信息、通道容量、最大熵形式，相關基礎應用與量子計算之連結。	How to measure information capacity How to compress information How to efficiently transmit information over noisy channels	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG4、SDG8、SDG9

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2022	Master Program	M670139F	1	A	機器學習概論	Introduction to Machine Learning	近幾年來，機器學習的方法已成功應用於許多真實世界的問題 (例如影像辨識、自然語言處理等)，並且已經公認為資料分析科學最基本且最重要之數學工具。本課程的重點是介紹機器學習必要之核心數學工具，包括線性代數以及機率，並介紹數種重要之學習方法，包括Regression Method, Kernel Method, Deep Learning, CNN, Reinforcement Learning等。	In recent years, machine learning methods have been successfully applied to many real-world problems (e.g., image recognition, natural language processing, etc.), and have been recognised as the most fundamental and important mathematical tool in data analysis science. The focus of this course is to introduce the core mathematical tools necessary for machine learning, including linear algebra and probability, and to introduce several important learning methods, including Regression Method, Kernel Method, Deep Learning, CNN, Reinforcement Learning, and so on.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG4、SDG8
2022	Master Program	M6701V92	1	A	類神經網路理論及應用	Neural Network Theories and Applications	瞭解類神經網路結構及學習模式，並能應用於實際系統上。	To understand the structure of neural networks and learning patterns, and to apply them to real systems.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG9
2022	Master Program	M67010RF	1	A	FPGA數位邏輯系統設計	FPGA-Based Digital Logic System Design	以大型可程式邏輯閘(FPGA)取代ASIC電路設計,由專題範例中學習硬體描述語言(VHDL).從最基本的組合邏輯和順序邏輯開始,到最後能瞭解控制晶片的規劃設計,並配合設計範例和FPGA硬體進行數位邏輯系統設計,實現硬體控制電路.	Replacement of ASIC circuit design with FPGAs and learning of the hardware description language (VHDL) from project examples. Starting from the basic combinational logic and sequential logic, you will be able to understand the planning and design of the control chip, and implement the hardware control circuit by designing the digital logic system with the design examples and FPGA hardware.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG9
2022	Master Program	M6701U20	1	A	隨機過程	Stochastic Processes	瞭解基本的機率與隨機過程, 並應用於通訊系統之設計與分析.	To understand basic probability and stochastic processes with applications toward communications.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG4、SDG9
2022	Master Program	M6701R94	1	A	數位控制	Digital Control	以離散時間的觀念來分析系統，建立模式及達成控制器設計，並探討其實際應用上的問題。以狀態空間表示法及多項式方法分別設計並探討其最佳設計。	Classical controls approach to the analysis and design of digital control systems. Design by frequency response and root locus methods. Use of MATLAB and a controls laboratory for controller design, implementation and system analysis.	3	Elective Course	通訊與導航工程學系碩士班 Department of Communications, Navigation and Control Engineering	SDG4、SDG9
2022	Contiuning Education Bachelor Degree Program	E4921H61	1	A	國文	Chinese	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告等方式，訓練同學協調溝通及口語表達等能力。	Through reading the classics of thinkers and writers, students will not only improve their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we also hope to train students' communication and oral skills through discussions and presentations.	2	Required Course	通識教育中心(進) General Education Center	SDG4、SDG5、SDG10、SDG16
2022	Contiuning Education Bachelor Degree Program	E4901ZSC	1	A	合唱之美(美學)	The Sound of CHORUS	(一)認識合唱音樂，以人聲從不同的聲部組合演唱呈現出不同的聲音之美與藝術化的境界。 (二)介紹多元合唱作品藝術之內涵多樣貌風格，培養鑑賞能力素養。 (三) 認識各種合唱類型，使學生與其生活、生長背景之鄉土具有親切感。	1. To understand choral music, which presents the beauty and artistic realm of different voices from different vocal combinations.2.To introduce the artistic connotation and diverse styles of choral works, and to cultivate the ability of appreciation. 3. To understand various types of choral works so that students can have a sense of affinity with the countryside where they live and grow up.	2	General Course	通識教育中心(進) General Education Center	SDG3、SDG5、SDG17
2022	Contiuning Education Bachelor Degree Program	E4921H61	1	C	國文	Chinese	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告等方式，訓練同學協調溝通及口語表達等能力。	Through reading the classics of thinkers and writers, students will not only improve their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we also hope to train students' communication and oral skills through discussions and presentations.	2	Required Course	通識教育中心(進) General Education Center	SDG4、SDG5、SDG10、SDG16
2022	Contiuning Education Bachelor Degree Program	E49014CA	1	A	智慧財產權法概論(民主)	Introduction to Intellectual Property Laws	立法院於民國九十六年一月九日三讀通過智慧財產案件審理法，同(九十六)年三月五日制定智慧財產法院組織法。智慧財產（Intellectual property）的法制化有助於社會經濟發展。然而，智慧財產在權利性質上也是一種對於智慧活動成果壟斷的特權；在專利法除罪化之後，刑罰的制裁仍存在於著作權法及商標法之中。值得反思的是，我國現行法律是否提供權利人過度的保護，造成人們在日常生活中動輒得咎，構成侵權。本課程除介紹現行法律對於著作權、商標權、專利權等相關規定，也嘗試從「合理使用」的角度檢視具體案例及爭議。期望藉由討論與對話，讓這門相當專業的法學課程，能應用及落實在日常生活中；也期使學生們在其各自的專業領域上，具備成為一個現代公民應	Intellectual property laws mainly consists of Trademark rights, Copyrights and Patents Law. To help our students obtaining the relevant knowledge and cultivate the mind and the spirit of law-abiding, this class focuses on the scope, limits of Intellectual property rights and the reasonable access of its fair use.	2	General Course	通識教育中心(進) General Education Center	SDG4、SDG10、SDG16

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Bachelor Degree Program	E4900Z96	1	A	現代藝術欣賞	Appreciation of Modern Arts	一、提昇學生對藝術的藝術的興趣與涵養 二、增進學生對現代藝術思潮的認識與批判的能力 三、經由對現代藝術體驗與操作，可拓展其宏觀的心志	1.Enhance students' interest in the art of art and its connotation. 2.Enhance students' understanding of modern art trends and their ability to criticise them. 3.Expand students' macroscopic mind by experiencing and manipulating modern art.	2	General Course	通識教育中心(進) General Education Center	SDG4、SDG5、SDG10、SDG15、SDG17
2022	Contiuning Education Bachelor Degree Program	E4901ZML	1	A	音樂人生(美感)	Music of Life	〈一〉以生活化介紹音樂作品，由藝術創作之影響激發起人生的多樣性，並藉以培養音樂鑑賞能力。 〈二〉從實際互動教學中，將音樂的多樣貌藝術與生活結合，從中獲取美感經驗的累積。 〈三〉雖然已錯過了學習鋼琴、小提琴樂器的黃金時機，但學習欣賞古典音樂和相關的文化，從現在開始，一點也不嫌遲！ 〈四〉運用多媒體，瞭解各音樂世紀作品比較與音樂家背景對其創作表現的衝擊。窺知音樂史所未記載的作曲家小秘密和創作靈感。	(1) To introduce musical works to life, to stimulate diversity in life through the influence of artistic creation, and to cultivate the ability to appreciate music. (2) To integrate the art of musical diversity with life through practical and interactive teaching and learning, and to accumulate aesthetic experience through this. (3) Although we have missed the golden opportunity to learn the piano and violin, it is not too late to start learning to appreciate classical music and related culture! (4) Use multi-media to understand how the works of different musical centuries compare with each other and the impact of musicians' backgrounds on their creative performances. Peek into the secrets of composers and their inspirations that have not been recorded in the history of music.	2	General Course	通識教育中心(進) General Education Center	SDG3、SDG5、SDG17
2022	Contiuning Education Bachelor Degree Program	E4911H61	1	B	國文	Chinese	本課程在藉由教學理念的轉化、課程內容的重新設計、教師專業的共同成長、文本選材的主題篩選，透過以「生命」為本的教學理念、全新的教學策略，並配合本校以「卓越教學與特色研究兼具的海洋頂尖大學」之自我定位、培養「具海洋視野與人文關懷的海大人」之基本素養，塑造二十一世紀之大學中文的教學操作模式。預期透過不同時空、文類風格等文學作品的閱讀、詮釋、鑑賞、書寫，使學生能鑑賞作家對自身出處得失與生命歷程的闡述，更進而瞭解蘊藏於文字之間的情感體驗、回憶與生命經驗、人生哲思，達成陶冶學生感官與思維結合、知性與感性並重、美學與哲學兼具的目標；指導並激發學生運用觀察、思辨、批判等能力，應用所學內涵落實至周遭生活的具體行動與人事物的多方關照。藉此加強學生在語文寫作、文學作品詮釋以及語言邏輯思辨之能力，培養學生省思自我生命、關照他我世界的宏觀視野，並達成提升學生美學生活、人文關懷、人際關係、文化認知與建立正確而適當人生觀的目標。在自我與他者之間，求取生命的平衡與和諧。	Through the transformation of teaching concepts, redesign of course contents, professional growth of teachers, and thematic selection of text materials, this programme aims to shape the Chinese language teaching mode of universities in the 21st century by adopting a "life"-based teaching philosophy, new teaching strategies, and the self-positioning of the university as a "top university in the ocean with excellent teaching and distinctive research", and by nurturing the basic qualities of "Haitian people with oceanic vision and humanistic care". It is expected that the programme will be implemented through different time zones and languages. It is expected that through reading, interpreting, appreciating, and writing literary works of different time periods and styles, students will be able to appreciate the writers' expositions of their own experiences, and further understand the emotional experiences, memories, life experiences, and philosophical thoughts of life that are embedded between the words, so as to achieve the goal of cultivating the combination of the senses and the mind, the importance of intellectuality and sensibility, and the aesthetics and philosophy of the students; and to instruct and stimulate the students' ability to use the skills of observation, discernment, and critique. It also guides and stimulates students to use their observation, critical thinking and criticism skills to apply what they have learnt to the concrete actions in their daily lives and to take care of people and things in various aspects. By strengthening students' abilities in writing, interpreting literary works, and logical thinking, we will cultivate a broader vision for students to reflect on their own lives and care about the world of others, and achieve the goals of enhancing students' aesthetic life, humanistic care, interpersonal relationships, cultural awareness, and establishing a correct and appropriate outlook on life. Students	2	Required Course	通識教育中心(進) General Education Center	SDG3、SDG4、SDG5、SDG10、SDG14、SDG16
2022	Contiuning Education Bachelor Degree Program	E4911H61	1	C	國文	Chinese	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告、多媒體教學等方式，訓練同學協調溝通及口語表達、影像傳播等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	通識教育中心(進) General Education Center	SDG4
2022	Contiuning Education Bachelor Degree Program	E4911H61	1	A	國文	Chinese	透過閱讀思想家、文學家之經典作品，除能增進同學語文能力的基礎，並能反思己身生命處境，及待人處事態度，使經典得以融入個人生命。另外也希望透過討論、報告、多媒體教學等方式，訓練同學協調溝通及口語表達、影像傳播等能力。	Through the reading of classic works of thinkers and writers, students can not only enhance their language skills, but also reflect on their own life situations and attitudes towards others, so that the classics can be integrated into their lives. In addition, we hope to train students in communication, oral expression, and video communication through discussions, reports, and multi-media teaching.	2	Required Course	通識教育中心(進) General Education Center	SDG4
2022	Contiuning Education Bachelor Degree	E4901ZEL	1	A	藝術家紀事	The Great Artists of Fine Art	一、能深入探索藝術家的創作、人生遭逢；體驗藝術家創作的冒險之旅及其點滴甘苦 二、能掘取藝術家的智慧，豁達我們的視野與心胸	1. To explore in depth the artist's creation and life experiences; to experience the artist's adventurous journey of creation and his or her pains and sufferings 2. To explore the artist's wisdom and to broaden our horizons and minds.	2	General Course	通識教育中心(進) General Education Center	SDG3、SDG4、SDG5、SDG10、SDG15、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Contiuning Education Bachelor Degree Program	E4901ZSA	1	A	歌唱藝術	Singing of The Art	(一)認識人聲、從不同的演唱方式之歌曲介紹，呈現出不同的歌謠聲音之美與藝術化的境界。 (二)認識世界名歌各種類型、美聲演唱方式呈現，使學生與其生活、生長背景之鄉土具有親切感。 (三)介紹世界名歌經典系列介紹，探討其歌唱藝術之內涵多樣貌風格，培養鑑賞能力及歌唱技能之素養為導向。	(1) To understand the human voice, and to introduce songs from different singing styles, presenting the beauty and artistic realm of different song voices. (2) Understanding the world's famous songs of various genres, beautiful singing style presentation, so that students have a sense of kinship with the background of their lives, growing up in the countryside. (3) Introducing the world's most famous songs in a series of classic introductions, exploring the connotations of the art of singing in a variety of styles, and cultivating the ability to appreciate the quality of singing skills as a guide.	2	General Course	通識教育中心(進) General Education Center	SDG3、SDG17
2022	Undergraduate	B57011RS	1	A	普通物理	General Physics	本課程針對非物理系學生，教授基本的物理學觀念。 本課程之目的為建立同學正確之物理觀念，利用物理知識來解決相關的問題，俾利從事之專業。	A calculus-based physics course for non-physics major students	3	Required Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG9、SDG10、SDG11
2022	Undergraduate	B5702P36	2	A	電腦網路	Computer Network	This is a fundamental course for Computer Network-related courses. With this course, you will learn Basic computer network concept and principle	This is a fundamental course for Computer Network-related courses. With this course, you will learn Basic computer network concept and principle	3	Required Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG8、SDG9
2022	Undergraduate	B57031JQ	3	A	Android行動裝置軟體設計	Android Mobile Device Programming	使同學對Android行動裝置軟體設計有清晰觀念，並具體完成Android APP作品。	Be familiar with the development of mobile apps for Android platform	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG9
2022	Undergraduate	B5702T0E	2	A	機率論	Probability Theory	機率論為統計分析之基礎，如何解釋事件發生的機率和計算機率，以及可藉此對不確定的事件做出適當的決策是學習本課程之目的。主要大綱為學習機率之基本概念與原理，瞭解事件發生的「機率分佈」模型及計算機率所遵循的法則，作為資料分析之工具和決策依據。	The theory of chance is the foundation of statistical analysis. The purpose of this course is to explain the chance of an event occurring, to calculate the chance of an event occurring, and to make appropriate decisions about uncertain events. The main outline is to learn the basic concepts and principles of probability, to understand the "probability distribution" model of event occurrence and the rules for calculating probability, which can be used as a tool for data analysis and as a basis for decision-making.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG5
2022	Undergraduate	B57032PA	3	A	物聯網技術與應用	Technologies and applications of IoT	讓同學瞭解物聯網的定義、架構、原理以及設計方法，並進一步培養同學分析設計物聯網應用之能力。	Introduce the key technologies and applications of IoT	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG8、SDG9
2022	Undergraduate	B5702T0E	2	A	機率論	Probability Theory	機率論為統計分析之基礎，如何解釋事件發生的機率和計算機率，以及可藉此對不確定的事件做出適當的決策是學習本課程之目的。主要大綱為學習機率之基本概念與原理，瞭解事件發生的「機率分佈」模型及計算機率所遵循的法則，作為資料分析之工具和決策依據。	The theory of chance is the foundation of statistical analysis. The purpose of this course is to explain the chance of an event occurring, to calculate the chance of an event occurring, and to make appropriate decisions about uncertain events. The main outline is to learn the basic concepts and principles of probability, to understand the "probability distribution" model of event occurrence and the rules for calculating probability, which can be used as a tool for data analysis and as a basis for decision-making.	3	Required Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG5
2022	Undergraduate	B57040UF	4	D	29-資工系專題(二)	Computer Projects (II)	資訊安全專題參與學生將學習到HTML語法與Javascript相關技術，藉以偵測網際網路上惡意的網頁連結，並建置高互動的動態客戶端誘捕系統偵測未知的變形攻擊。	Students participating in data science will learn to process big real-world data. There will be two types of data available. The first type of data is nautical data. We will be gathering and processing a few terabytes of information, in attempt to derive statistics, catch efforts, and estimates on the marine resources. The second is financial data. By monitoring fluctuations in derivatives and monetary instruments, we try to estimate the future value of contracts which depend on these underlying. Participated students of information security project will learn HTML syntax and related techniques of Javascript, which helps to detect malicious web pages on the Internet and establish high interactive dynamic client-side honeypots for detecting unknown attack variations.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG17
2022	Undergraduate	B57040UF	4	I	29-資工系專題(二)	Computer Projects (II)	本課程讓學生學習如何運用服務導向運算架構與技術，並讓學生學習如何遵循軟體工程流程進行服務導向軟體之研發；以及讓學生認識計算生物學。藉著學而做，做中學，體驗計算生物學的奧妙。	The goal is to let students (1) develop service-oriented software projects by following software engineering processes; or (2) learn computational biology by doing it.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4
2022	Undergraduate	B57040UF	4	B	29-資工系專題(二)	Computer Projects (II)	運用機器學習理論技術於實際問題中，透過專案研究讓學生以專題實做方式活用機器學習理論	applied machine learning techniques for internet/networking problems	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG5、SDG9

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2022	Undergraduate	B57040UF	4	K	29-資工系專題(二)	Computer Projects (Ⅱ)	運用網路、嵌入式系統及感測技術，設計並實作智慧感知與辨識應用系統。	Design and implementation of intelligent sensing and identification applications using networking, embedded systems and sensing technologies.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG12
2022	Undergraduate	B5703N54	3	B	資料庫系統	Database Management System	本課程針對資料庫作介紹，其課程內容包含：資料庫基本概念、實體關係模式、關聯模式、關聯模式的運算、SQL查詢語法及資料正規化。	This course provides an introduction to fundamental concepts in the design and implementation of database systems. Topics to be covered include: overview of database system, data modeling using the Entity-Relationship (ER) Model, the Enhanced Entity-Relationship (EER) Model, SQL, and Normalization.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG9
2022	Undergraduate	B57033L9	3	A	巨量資料運算導論	Introduction to Big Data Computing	1. 瞭解巨量資料運算的基礎理論 2. 設計實作巨量資料運算應用專題	1. Understand the fundamental theory of Big Data Computing. 2. Implement the application project of Big Data Computing.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4
2022	Undergraduate	B57011RR	1	B	計算機概論實習	Laboratories for Introduction to Computer Science	與「計算機概論」主課搭配學習，利用上機實習之方法，更深入瞭解主課之各個單元如何應用在實際的電腦程式撰寫。	This course is designed to be used in conjunction with the main course "Introduction to Computing", with hands-on practice to gain a deeper understanding of how the modules of the main course are applied to the writing of real-life computer programmes.	1	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG8、SDG9
2022	Undergraduate	B57011RS	1	A	普通物理	General Physics	本課程針對非物理系學生，教授基本的物理學觀念。 本課程之目的為建立同學正確之物理觀念，利用物理知識來解決相關的問題，俾利從事之專業。	A calculus-based physics course for non-physics major students.	3	Required Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG9、SDG10、SDG11
2022	Undergraduate	B5701M33	1	D	程式設計	Introduction to Programming	這門課將學習到如何以C程式語言撰寫電腦程式。	This course provides an introduction to computer science using the C programming language. It is a programming course.	3	Required Course	資訊工程學系 Department of Computer Science and Engineering	SDG4、SDG10
2022	Undergraduate	B57040UF	4	F	29-資工系專題(二)	Computer Projects (Ⅱ)	本專題課程提供學生學習生技及醫藥資訊系統相關主題之研究及資料視覺化之系統開發，希望藉由學習基因體/轉錄體組裝及功能分析、醫學影像資料分析、健保資料庫之巨量資料分析、及數據統計與資料視覺化之相關應用，讓學生可以實際參與目前最熱門的巨量資料世代及了解精準醫療產業之相關應用及資料視覺化的技術開發應用。	This course is designed to provide important topics in bioinformatics and medical informatics. Students are able to learn about problems involved in the big data analysis of biological/medical data such as genomic sequences, protein structures, medical imaging, and National Health Insurance Research Database. The course is intended to provide good understanding of the commonly used algorithms in the analysis of genomic and medical data, and hands-on experiences with accessing and using relevant big datasets.	3	Elective Course	資訊工程學系 Department of Computer Science and Engineering	SDG4
2022	Contiuning Education Master Degree	T4W0199H	1	A	計算機網路	Advanced Computer Networks	本課程以現有計算機網路為基礎，使學生了解計算機網路的相關通訊協定與未來研究方向。	Introduction concepts and selected research topics on computer networks.	3	Elective Course	資訊工程學系碩士在職專班 Department of Computer Science and Engineering	SDG4、SDG9
2022	Contiuning Education Master Degree	T4W01M23	1	A	無線網路	Wireless Networks	本課程以現有無線網路為核心，使學生能夠了解無線網路的基本概念與運作的原理，並熟悉無線網路的相關通訊協定與應用及未來發展。讓同學瞭解物聯網的定義、架構、原理以及設計方法，並進一步培養同學分析設計物聯網應用之能力。	This is a fundamental course for Wireless Network courses. With this course, you will learn basic wireless networks concept and principles	3	Elective Course	資訊工程學系碩士在職專班 Department of Computer Science and Engineering	SDG4、SDG8、SDG9
2022	Master Program	M570149Z	1	A	下世代網路切片應用服務	The services and applications of network slicing for next-generation networks	本課程之教學目標為培育學生具備5G及網路切片實務技術，養成台灣通訊產業界所需要之人才。	The objective of this course is to cultivate students with 5G and network slicing technologies, and cultivate talents for Taiwan"s information and communication technology (ICT) industry.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG9
2022	Master Program	M57011Y5	1	A	高等微控軟體與硬體設計	Advanced Micro Hardware and Software Design	This course will instruct and inspire students on integrating computer science, material science, optics, and electric engineering discipline to create special purpose devices that can be seen daily. Students should have a solid understanding of basic knowledge including computer programming, electronics and circuits, digital logics, and embedded systems since this is a one semester course covering a very broad range and assuming that basic understanding is present. A final project must be completed, including both software and hardware components, at the end of this course to	This course will instruct and inspire students on integrating computer science, material science, optics, and electric engineering discipline to create special purpose devices that can be seen daily. Students should have a solid understanding of basic knowledge including computer programming, electronics and circuits, digital logics, and embedded systems since this is a one semester course covering a very broad range and assuming that basic understanding is present. A final project must be completed, including both software and hardware components, at the end of this course to receive credit.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG9、SDG11、SDG14
2022	Master Program	M57013ZN	1	A	行動寬頻網路	Mobile broadband networks	本課程介紹3GPP標準中4GLTE/5G相關的行動網路協定與核網技術。課程將涵蓋各種先進的協同網路協定架構與方法，包括Standalone(SA)與Non-Standalone (NSA)等5G架構中，如何利用Dual Connectivity (DC)及EN-DC (E-UTRAN New-Radio - Dual Connectivity)技術來進行4G、5G、Non-3GPP等各式無線網路的協同運作與整合。	In this course, we introduce 4GLTE/5G mobile network protocols, in particular in core network function modules. Current available 5G architecture such as SA (Standalone) and NSA (Non-Standalone) will be introduced. Additionally, cooperation between heterogeneous networks between LTE/5G an non-3GPP networks (such as WiFi) will be discussed.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG1、SDG4、SDG5、SDG9、SDG10

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2022	Master Program	M57012TU	1	A	最佳化理論與應用	Optimization Theory and Applications	此課程授予學生各種進階數值最佳化演算法，亦讓學生於實作中，了解其最佳化方法之精神與應用。	The goal of this course is to give students advanced knowledge of numerical optimization algorithms and computational experience using these algorithms in programming.　Applications to different research areas are also learned through completing term projects.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG4、SDG5
2022	Master Program	M57014DM	1	A	高等無線通訊協定	Advanced Wireless Communication Protocols	本課程主要在提供研究所階段的學生學習並探討無線通訊協定相關學術上及實務上的研究議題，藉由論文研討，瞭解目前各種無線通訊協定的最新進展。	This course is mainly targeted at graduate-level students to study and discuss academic and practical research topics related to wireless protocols. Through literature surveys and paper discussions, students can understand the latest developments of various wireless protocols.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG9
2022	Master Program	M5701F5H	1	A	高等無線網路專題	Advanced Topics in Wireless Networks	To study advanced topics in wireless networks	To study advanced topics in wireless networks	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG4、SDG9
2022	Master Program	M57013KL	1	A	深度學習社群媒體分析	Deep Learning Social Media Analytics	1. 瞭解深度學習社群媒體分析的基本概念與研究議題。 2. 進行深度學習社群媒體分析相關專題研究。	1. Understand the concepts and research topics of Deep Learning Social Media Analytics. 2. Conduct the project research in the context of Deep Learning Social Media Analytics.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG4
2022	Master Program	M57011D1	1	A	演算法設計與分析	Algorithm Design and Implementation	演算法設計方法論及複雜度分析	algorithm design methodology and complexity analysis	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG1、SDG4、SDG5、SDG9、SDG10
2022	Master Program	M57012TW	1	A	物聯網核心技術	Core Technologies of IoT	介紹物聯網核心技術及進階研究課題，使學生具備設計和分析物聯網應用系統能力。	It introduces the core technology of Internet of Things (IoT) and advanced research topics, and equips students with the ability to design and analyse IoT applications.	3	Elective Course	資訊工程學系碩士班 Department of Computer Science and Engineering	SDG4、SDG9
2022	Undergraduate	B6801497	1	A	交通工程	Traffic Engineering	本課程目的在於介紹有關從事交通工程規劃、管理、與工程等工作所必須具備之相關知識，期許修課學生能掌握交通工程本質，並能應用所學知識解決相關問題。	This course includes the necessary knowledge in planning, management and engineering of traffic. All students are expected to understand the related issues involved in traffic engineering, and can apply the knowledge to solve the problems.	3	Required Course	運輸科學系 Department of Transportation Science	SDG11、SDG16
2022	Undergraduate	B6803MIT	3	B	海洋智慧型運輸系統	Marine Intelligent Transportation Systems	本課程介紹智慧型運輸系統的概念與實務，在本課程中強調規劃與實作的重要性，使得修習本課程的同學，除了能夠獲得基本的智慧型運輸社會（ＩＴＳ）概念之外，還能夠充分瞭解智慧型運輸系統的實際運作，合作是物聯網新價值鍊物聯網，是由通信網路，能源網路和物流網路組成這些網路共同在單一作業系統中，合作持續尋找各種方法來提升支援整編生產及配送商品和服務，以及廢棄物回收等過程中的熱力效率和生產力，這三種網路之介紹與舉出職場實例應用，包括通訊能力推動管理經濟活動，能源管理取得資訊提供運輸能力，物流規劃提供價值鏈推動經濟活動，以求理論與實務的結合，培養日後進入空陸運輸及海洋港灣公司工作的能力與智慧。	This course introduces the concepts and practices of Intelligent Transport Systems (ITS). In this course, the importance of planning and implementation is emphasised, so that students taking this course will not only be able to acquire basic Intelligent Transport Society (ITS) concepts, but also be able to fully understand the actual operation of ITS, and that co-operation is the new value chain of the Internet of Things (IoT). The Internet of Things (IoT) is comprised of a communications network, an energy network, and a logistics network. Together in a single operating system, co-operation continues to find ways to improve the thermal efficiency and productivity of the process of supporting the entire production and distribution of goods and services, as well as waste recycling, etc. The introduction of these three networks and examples of workplace applications, including the ability to promote the management of communication economic activities, energy management to obtain information to provide transport capacity, logistics planning to provide a value chain to promote economic activities in order to combine the theory and practice, and cultivate a better understanding of the future of the Internet of Things. This will help to integrate theory and practice, and develop the ability and wisdom to work in air, land, transport and marine companies in the future.	3	Required Course	運輸科學系 Department of Transportation Science	SDG1、SDG4、SDG8
2022	Undergraduate	B68034MX	3	A	海運承攬實務	Marine Forwarder Practice	本課程將邀請多位產學專家業師講授海運承攬運送與物流實務相關課題，期使同學能夠透過此課程的產學合作緊密連結，協助同學了解海運承攬運送與物流相關產業中的就業人員應具備的專業知能，好讓同學提早了解海運承攬運送與物流實務相關作業，達到產學無縫接軌零落差之目標。	This course will invite a number of industry experts to lecture on topics related to maritime transport and logistics practices, in the hope that students will be able to closely link up with industry-academia co-operation through this course, to help students understand the professional knowledge that employees in the maritime transport and logistics related industries should have, so that students can understand the maritime transport and logistics practices related to the operation of the course, and to achieve the goal of a seamless integration of the industry and the academia.	3	Elective Course	運輸科學系 Department of Transportation Science	SDG4
2022	Undergraduate	B6803N6X	3	B	運輸安全	Transportation Safety	1. 讓學生熟悉運輸安全之基本觀念及理論 2. 運輸安全分析方法設計及應用	1. To understand the principles and theories of transportation safety 2. Design and analysis of algorithms	3	Required Course	運輸科學系 Department of Transportation Science	SDG3、SDG9、SDG11

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2022	Undergraduate	B6803N7H	3	B	運輸規劃	Transportation Planning	透過運輸規劃程序的探討,結合運輸評估方法的操作,加強學生對於運輸系統之了解，並建立運輸規劃與方案評估之能力。	Through the exploration of the transport planning process, combined with the operation of transport assessment methods, students are able to enhance their understanding of the transport system and build up their competence in transport planning and scheme evaluation.	3	Required Course	運輸科學系 Department of Transportation Science	SDG4、SDG5、SDG10、SDG11
2022	Undergraduate	B6811N38	1	A	經濟學	Economics	使學生瞭解經濟活動,經濟政策和金融市場的關係,並具備分析整體經濟問題的基礎能力。	This course provides students with an understanding of the relationship between economic activity, economic policy and financial markets, as well as the basic skills to analyse overall economic issues.	3	Required Course	運輸科學系 Department of Transportation Science	SDG3、SDG8、SDG9、SDG11、SDG12、SDG16
2022	Undergraduate	B6801N8U	1	B	運輸學	Transportation	本課程講授運輸之基本概念及各運輸工具之基本特性，使學生具有各運輸系統之基本知識。	This course teaches the fundamental knowledge of transportation and each basic characteristic of transportation system.	3	Required Course	運輸科學系 Department of Transportation Science	SDG11
2022	Undergraduate	B68020YW	2	B	商業自動化與自動化辨識	Commerce Automation and Automated Identification	這是一門探討商業自動化與自動化辨識的重要發展、應用趨勢及相關實務課題的課程，並協助修課同學取得國際條碼管理師之證照認證，103年度開課以來，共計374位同學通過取得國際條碼管理師之證照認證，僅有5位沒有通過，確可有效強化同學未來職場優勢。另外108年度開始還增加物聯網工程師之證照認證，截至目前共有111位同學取得物聯網工程師認證。	This is a course that explores the important development of business automation and automated identification, application trends and related practical issues, and assists students in obtaining the International Barcode Manager (IBM) certification. Since the start of the course in FY103, a total of 374 students have passed the IBM certification, with only 5 failing to do so, which effectively strengthens the advantage of the students in the future workplace.In addition, the number of Internet of Things (IoT) engineers has been increased since the beginning of FY108, and a total of 111 students have been certified as IoT engineers so far.	3	Elective Course	運輸科學系 Department of Transportation Science	SDG9、SDG12
2022	Undergraduate	B6803F0E	3	B	航運經營管理	Shipping Management	讓學生瞭解海洋運輸之基本要素、航運實務、航運產業、定期航運與不定期航運等，培養蒐集分析資料製作專業報告與簡報能力。	Students will learn about the basic elements of maritime transport, shipping practices, the shipping industry, regular shipping and irregular shipping, and develop the ability to collect and analyse information to produce professional reports and presentations.	3	Elective Course	運輸科學系 Department of Transportation Science	SDG1、SDG3、SDG4、SDG9、SDG12、SDG14
2022	Undergraduate	B6803N6X	3	A	運輸安全	Transportation Safety	介紹運輸安全領域所探討之內容與分析方法	Introduces the contents and analyses in the field of transport safety.	3	Required Course	運輸科學系 Department of Transportation Science	SDG3、SDG4、SDG5、SDG10、SDG11、SDG16
2022	Undergraduate	B6801N8U	1	A	運輸學	Transportation	本課程講授運輸之基本概念及各運輸工具之基本特性，使學生具有各運輸系統之基本知識。	This course teaches the fundamental knowledge of transportation and each basic characteristic of transportation system.	3	Required Course	運輸科學系 Department of Transportation Science	SDG11
2022	Undergraduate	B6802S60	2	A	線性代數	Linear Algebra	線性代數及矩陣理論為學習自然科學及工程等知識領域的基礎知識。本課程目的在於使學生對線性代數(向量/矩陣)的基本理論有初步的理解，並具有基本的操作與計算能力，進而具備使用電腦進行數值運算的基礎應用能力。	Linear algebra and matrix theory are fundamental to the study of natural sciences and engineering. The aim of this course is to provide students with an initial understanding of the basic theory of linear algebra (vectors/matrices) and basic manipulation and computational skills, which will lead to basic application of numerical computation using computers.	3	Elective Course	運輸科學系 Department of Transportation Science	SDG3、SDG9、SDG12
2022	Undergraduate	B6811N38	1	B	經濟學	Economics	使學生瞭解經濟活動,經濟政策和金融市場的關係,並具備分析整體經濟問題的基礎能力。	This course provides students with an understanding of the relationship between economic activity, economic policy and financial markets, as well as the basic skills to analyse overall economic issues.	3	Required Course	運輸科學系 Department of Transportation Science	SDG3、SDG8、SDG9、SDG11、SDG12、SDG16
2022	Undergraduate	B6803MIT	3	A	海洋智慧型運輸系統	Marine Intelligent Transportation Systems	介紹智慧型運輸系統的概念與實務，在本課程中強調規劃與實作的重要性，使得修習本課程的同學，除了能夠獲得基本的智慧型運輸社會（ＩＴＳ）概念之外，還能夠充分瞭解智慧型運輸系統的實際運作合作是物聯網新價值鍊物聯網是由通信網路能源網路和物流網路組成這些網路共同在單一作業系統中合作持續尋找各種方法來提升支援整編生產及配送商品和服務以及廢棄物回收等過程中的熱力效率和生產力 這三種網路相輔相成 缺一不可 若缺乏通訊能力就無法管理經濟活動 缺乏能源就無法取得資訊或提供運輸能力 缺乏物流就無法沿著價值鏈來推動經濟活動唯有這三種運作系統完整結合在一起這個新經濟組織才能夠完全擁有完整的生理機能 永續運作，以求理論與實務的結合，培養日後進入海洋港灣公司或空陸運輸公司工作的能力。	Introducing the concepts and practices of Intelligent Transport Systems (ITS), this course emphasises the importance of planning and implementation, so that students can not only acquire basic concepts of Intelligent Transport Societies (ITS), but also fully understand the actual operation of ITS Collaboration is the new value chain of the Internet of Things (IoT) The IoT is comprised of communication networks, energy networks, and logistic networks that work together in a single operating system. These networks work together in a single operating system to continually find ways to improve thermal efficiency and productivity in supporting the integration of production and distribution of goods and services, as well as the recycling of waste, etc. These three networks complement each other and are indispensable. Only when these three operating systems are fully integrated can this new economic organisation have a complete physiological function to operate continuously, so as to combine theory and practice, and to develop the ability to work in marine harbour companies or air and land transport companies in the future.	3	Required Course	運輸科學系 Department of Transportation Science	SDG1、SDG4、SDG8
2022	Undergraduate	B6803N7H	3	A	運輸規劃	Transportation Planning	透過運輸規劃程序的探討,結合運輸評估方法的操作,加強學生對於運輸系統之了解，並建立運輸規劃與方案評估之能力。	Through the exploration of the transport planning process, combined with the operation of transport assessment methods, students are able to enhance their understanding of the transport system and build up their competence in transport planning and scheme evaluation.	3	Required Course	運輸科學系 Department of Transportation Science	SDG4、SDG5、SDG10、SDG11

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2022	Undergraduate	B6801NNX	1	B	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	(1) 參與勞動服務之同學均能養成服務的觀念與習慣。 (2) 提供老師及學生上課教室及公共空間整齊清潔的環境。	(1) To develop the concept and habit of service among students who participate in labour service. (2) To provide a clean and tidy environment for teachers and students in classrooms and public spaces.	0	Service Learning Program	運輸科學系 Department of Transportation Science	SDG3、SDG4、SDG6、SDG12
2022	Undergraduate	B68022NV	2	B	先進資通訊科技在智慧運輸應用	Advanced Information and Communications Technology in Smart Transportation	「安全」與「效率」一向為各國推動智慧運輸(ITS)之重要目標，兩者間互為影響。我國ITS發展在政府大力投入下，已在高快速公路與都會區之交通管理以及公共運輸上有者長足進步，透過智慧型行動裝置的多元下的交通資訊服務，提供更貼近民眾「行」的交通資訊需求。近年來，國際在智慧型運輸系統發展已朝向物聯網(Internet of Things)概念之協同式智慧型運輸系統或車聯網(Cooperative ITS或Connected vehicle)發展，以及積極發展自動駕駛車輛。因此本課程將說明智慧城市及其智慧運輸內涵、我國智慧型運輸系統發展現況與後續發展、車聯網/先進駕駛輔助系統/自動駕駛及其對交通運輸之衝擊、雲端運算與大數據在交通運輸應用，最後介紹創新模式對都市交通的影響。	Safety and efficiency are two main goals of intelligent transportation systems (ITS) development for all countries in the world. With fully support to ITS from government, Taiwan has great achievement to introducing ITS into freeway and urban traffic management systems, and also in public transportation services. With mobile services, traffic information is available to the public to meet their “transport” needs. In recent year, ITS has dramatically changed by introducing “Internet of Things”. “Vehicle” are connected together using dedicated short range communication (DSRC) and autonomous vehicles are aggressively developed. This course tends to introduce the concept of smart city and smart transport, and current ITS development and its future plan will be discussed. New technologies, such as connected vehicle, advanced drivers assistance system (ADAS), autonomous vehicle, and their impact to urban transport will also be discussed. Finally, new business models, such as “sharing” and “	3	Elective Course	運輸科學系 Department of Transportation Science	SDG11
2022	Undergraduate	B68033AB	3	B	R程式設計	R Programming	學習R程式語言，培養學生利用R語言整理與分析資料的能力。	To learn the R programming language and to develop students' ability to organise and analyse data in R language.	3	Elective Course	運輸科學系 Department of Transportation Science	SDG4、SDG5
2022	Undergraduate	B6803444	3	B	生產與作業管理	Production and Operations Management	生產/作業為企業的核心活動，其包含有預測、產能規劃、設施佈置、品質管理、工作排程等基本內容。本課程目標為使學生對這些內容具備基礎知識，進而發展初步的應用能力。	Operations management is the core activity in a company, including forecasting, capacity planning, facility layout, quality management, scheduling, etc. This course provides students the basic knowledge about these issues and enables them to develop preliminary skills of applications.	3	Required Course	運輸科學系 Department of Transportation Science	SDG3、SDG9、SDG12
2022	Undergraduate	B6803444	3	A	生產與作業管理	Production and Operations Management	生產/作業為企業的核心活動，其包含有預測、產能規劃、設施佈置、品質管理、工作排程等基本內容。本課程目標為使學生對這些內容具備基礎知識，進而發展初步的應用能力。	Operations management is the core activity in a company, including forecasting, capacity planning, facility layout, quality management, scheduling, etc. This course provides students the basic knowledge about these issues and enables them to develop preliminary skills of applications.	3	Required Course	運輸科學系 Department of Transportation Science	SDG3、SDG9、SDG12
2022	Undergraduate	B6804D89	4	A	財務管理	Financial Management	讓同學瞭解財務管理之理論、方法與實際公司營運中的財務活動內容，並培養學生應用財務管理方法於個人與公司理財的能力。	This course is designed to provide students with an understanding of the theories and methods of financial management and the actual financial activities of a company, and to develop students' ability to apply financial management methods to personal and corporate financial management.	3	Elective Course	運輸科學系 Department of Transportation Science	SDG1、SDG2、SDG3、SDG4、SDG5、SDG9、SDG12、SDG17
2022	Undergraduate	B68012V0	1	B	運輸物流產業導論	Introduction to Industry of Transportation and Logistic	使本系新生於進入本系就讀後，能夠概略了解本系的專業領域及發展方向，期能及早引發專業興趣和規劃專業學習，以利未來畢業能術有專精、學有所長。	After entering the department, new students will be able to have a general understanding of the department's professional fields and development directions, so that they will be able to arouse their professional interests and plan for their professional studies as early as possible, so that they will be able to graduate with specialised knowledge and skills in the future.	2	Elective Course	運輸科學系 Department of Transportation Science	SDG8
2022	Contiuning Education Master Degree	T4Y014DX	1	A	財務分析與投資計畫評估	Financial Analysis and Project Evaluation	讓同學瞭解財務管理之理論、方法與實際公司營運中的財務活動內容，並培養學生應用財務報表分析與投資計畫評估的的能力。	This course is designed to provide students with an understanding of the theories and methods of financial management and the financial activities of actual company operations, as well as to develop the ability to analyse financial statements and evaluate investment plans.	2	Elective Course	運輸科學系運輸與供應鏈管理碩士在職專班 Department of Transportation Science	SDG1、SDG2、SDG3、SDG4、SDG5、SDG8、SDG9、SDG10、SDG12
2022	Contiuning Education Master Degree Program	T4Y014E2	1	A	運輸與供應鏈績效評估	Transportation and supply chain performance evaluation	主要探討運輸績效評估之重要觀念，其次說明各種運輸產業的績效指標及績效評估方法，最後舉例說明如何應用適當方法於公路、軌道、航空、海運、港口之績效評估。	It mainly explores the important concepts of transport performance assessment, then describes the performance indicators and performance assessment methods of various transport industries, and finally gives examples to illustrate how to apply the appropriate methods in the performance assessment of roads, railways, airways, sea transport and ports.	2	Elective Course	運輸科學系運輸與供應鏈管理碩士在職專班 Department of Transportation Science	SDG3、SDG8、SDG9、SDG11
2022	Contiuning Education Master Degree Program	T4Y014L7	1	A	作業研究暨產業實務應用	Operations Research and Applications	藉由學習作業研究之技術方法，以及問題實例、數理模式之探討，使學生具備系統化分析與解決問題的能力，並能將其應用於物流及供應鏈之經營、管理與決策。	This course provides students the basic knowledge of operations research. Using the operations research methods and skills learned in the class, students will be capable of analyzing and solving system problems in supply chain management.	2	Elective Course	運輸科學系運輸與供應鏈管理碩士在職專班 Department of Transportation Science	SDG7、SDG12
2022	Contiuning Education Master	T4Y024E0	2	A	智慧型論文與專案規劃案例探討	The case study of AI thesis and project writing	人工智慧個案研究	Case study of AI (Artificial Intelligent)	2	Elective Course	運輸科學系運輸與供應鏈管理碩士在職專班 Department of Transportation Science	SDG4、SDG8、SDG9、SDG12

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2022	Master Program	M68012HC	1	A	物流系統之選址規劃與設計	Location Models of Logistics Systems	本課程為物流/供應鏈之進階課程，使學生對物流系統內之設施位址之選擇與配置有更深入的瞭解，並學習相關量化與非量化的方法，以培養學生解決實務問題之能力。	This course is a logistics/supply chain course which provides students the deep knowledge about supply chain issues and the training of the relevant methodologies for problem solving.	3	Elective Course	運輸科學系碩士班 Department of Transportation Science	SDG9、SDG11
2022	Master Program	M6801K5C	1	A	貨櫃運輸專論	Container Transport Management	讓學生瞭解貨櫃運輸之基本要素、定期航運實務與產業，培養蒐集分析資料製作專業報告與簡報能力。	This subject is designed to provide professional study of the container transport management of liner shipping with respect to the international maritime business environment. This subject provides students with a full understanding of current developments in the liner shipping, and to enable them to understand the application of quantitative techniques in container transport management decision making. Studying this subject will also help develop students' global outlook, critical and creative thinking, entrepreneurship and leadership.	3	Elective Course	運輸科學系碩士班 Department of Transportation Science	SDG1、SDG3、SDG4、SDG8、SDG9、SDG14、SDG16
2022	Master Program	M6801NAN	1	A	空間決策方法論	Spatial Decision Making Methods	空間決策與人工智慧方法論 利用空間及時間軸探討決策的方法包括 多準則決策(MCDM)模糊理論(FT) 海洋地理資訊系統(MGIS) 人工智慧型系統開發(AI SYSTEM) 類神經網路(ANN) 時間序列分析(TSA) 基因演算法(GA) 混沌理論(CHAOS) 資料掘礦 (DM) 大數據分析(BDA)...等方法論之介紹與相關軟體應用	Methodology of the Spatial Decision Support and AI Systems (Spatial decision methodology) Methods of using space and time axis to discuss decision-making include multi-criteria decision-making (MCDM), fuzzy theory (FT), marine geographic information system (MGIS), artificial intelligence system development (AI SYSTEM), neural network (ANN), and time series analysis (TSA) Genetic Algorithm (GA) Chaos Theory (CHAOS) Data Mining (DM) Big Data Analysis (BDA)... and other methodologies and related software applications	3	Elective Course	運輸科學系碩士班 Department of Transportation Science	SDG4、SDG9、SDG17
2022	Master Program	M68010P8	1	A	運輸生產力與效率分析	Transportation Productivity and Efficiency Analysis	介紹運輸績效評估的概念及方法，並提供合法完整版自由軟體供學生實地操作，以訓練學生於學術界及運輸產業界之實際操作分析能力。	This course introduces the concepts and methods of transport performance assessment, and provides a legal and full version of free software for students to operate in the field, in order to train students' practical operation and analysis skills in academia and the transport industry.	3	Elective Course	運輸科學系碩士班 Department of Transportation Science	SDG8、SDG9、SDG11、SDG12
2022	Undergraduate	B5303850	3	A	近代物理	Introduction to Modern Physics	本課程為古典物理學與量子物理學及相對論的銜接課程，旨在使學生，對於近代物理學(1900年後)之演進，重要理論與觀念，及在其他相關領域之應用，有深刻認識瞭解。	This programme is a bridging course between classical physics and quantum physics and relativity theory. It aims to provide students with a deep understanding of the evolution of modern physics (after 1900), the important theories and concepts, and their applications in other related fields.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG4、SDG9
2022	Undergraduate	B53114EE	1	A	普通物理	General Physics	大-物理介紹; 包含聲波，電子與靜電及直流電。	An introduction to freshman physics, specifically in the topics of oscillation, mechanical and acoustic waves, electrostatics and direct current circuits.	2	Required Course	電機工程學系 Department of Electrical Engineering	SDG4
2022	Undergraduate	B5301M30	1	B	程式設計實習	Introduction to Programming Lab.	1.建立邏輯設計基礎 2.學習C系列程式語言撰寫 3.學會各種應用程式開發	1.Establish the foundation of logical design 2. Learn to write C programming language. 3.Learn various application development	1	Required Course	電機工程學系 Department of Electrical Engineering	SDG5
2022	Undergraduate	B5301992	1	A	計算機概論	Introduction to Computer Science	瞭解電腦軟硬體系統、程式語言、軟體設計流程和電腦網路概念。	Let students be familiar with the fundamental contents of computer science.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B5303K65	3	A	通訊工程	Communication Engineering	講授類比通訊系統之基本理論與技術。	Teach the fundamental theory and techniques of analog communication systems.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG3、SDG8、SDG9、SDG11、SDG12、SDG14
2022	Undergraduate	B5303M30	3	A	程式設計實習	Introduction to Programming Lab.	1.瞭解 C 語言程式設計概念。 2.瞭解程式設計思維技巧與邏輯概念。 3.瞭解程式碼意義與語法規則。	1. Understand the concepts of C programming. 2. Understand programming thinking skills and logical concepts. 3. Understand code meaning and syntax rules.	1	Elective Course	電機工程學系 Department of Electrical Engineering	SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B5312P18	2	A	電子學實驗	Lab for Electronics	以實驗實作中訓練學生的直觀反應及經驗，並印證理論，加強對電子學的了解.	Training the students in experiments and increaseing the understanding of electronics.	1	Required Course	電機工程學系 Department of Electrical Engineering	SDG4、SDG9
2022	Undergraduate	B5312P18	2	B	電子學實驗	Lab for Electronics	以實驗實作中訓練學生的直觀反應及經驗，並印證理論，加強對電子學的了解.	Training the students in experiments and increaseing the understanding of electronics.	1	Required Course	電機工程學系 Department of Electrical Engineering	SDG4、SDG9
2022	Undergraduate	B5303M33	3	A	程式設計	Introduction to Programming	1.瞭解 C 語言程式設計概念。 2.瞭解程式設計思維技巧與邏輯概念。 3.瞭解程式碼意義與語法規則。	1. Understand the concepts of C programming. 2. Understand programming thinking skills and logical concepts. 3. Understand code meaning and syntax rules.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B5304P98	4	A	演算法	Computing Algorithm	延續資料結構課程，介紹一些常見演算法及其分析，藉由熟悉演算法之設計與分析，以增強程式設計工作之核心智能。	Continuing the studies of data structure, this course introduces well-known algorithms and their analyses. By learning and practicing the design and analysis of algorithms, the students can enhance their intelligence and skills of programming.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG4、SDG9
2022	Undergraduate	B53011S9	1	A	電機產業巡禮	An Introduction to Electrical Industries	使修課同學認識電機產業並請電機相關產業中階主管或資深工程師做經驗分享	Introduce students to the electrical industry and invite middle managers or senior engineers in the electrical industry to share their experience.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG3、SDG4、SDG8、SDG9、SDG12、SDG16、SDG17

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B5303K63	3	A	通訊工程實驗	Communication Engineering Lab.	經由 Matlab 實驗來驗證類比通訊系統理論及技術。	Verify the fundamental theory and techniques of analog communication systems via Matlab labs.	1	Elective Course	電機工程學系 Department of Electrical Engineering	SDG3、SDG4、SDG8、SDG9、SDG11、SDG12、SDG14、SDG16、SDG17
2022	Undergraduate	B5312P17	2	A	電子學	Electronics	培訓學生認識及瞭解電子技術之相關原理，及其基本應用原理。 讓學生了解電子學及電子電路之基本原理。	To train students to recognize and understand the related principles of electronic technology and their applications. To enable students to understand the basic principles of electronics and electronic circuits.	3	Required Course	電機工程學系 Department of Electrical Engineering	SDG4、SDG9
2022	Undergraduate	B5303850	3	A	近代物理	Introduction to Modern Physics	了解近代物理的理論概念，奠定近代的科學與科技的物理基礎，可應用半導體積體電路、奈米科學與光電領域發展相關知識。	Understand the theoretical concepts of modern physics, lay the physical foundation of modern science and technology, and apply knowledge related to the development of semiconductor integrated circuits, nanoscience and optoelectronics.	3	Elective Course	電機工程學系 Department of Electrical Engineering	SDG4、SDG9
2022	PH.D Program	D5301S59	1	A	線性電路分析與設計	Analysis and Design of Linear Circuits	「線性電路設計與分析」在電機電子產業是非常重要的一環，上課同學經由本課程可建立線性電路設計與分析的理論基礎。本課程以線性元件與運算放大器為核心，經由迴授理論之研習、電路性能規格之解說、電子電路之參數分析、電路模型之建置、電子電路之設計與分析，學生將可獲得足夠且實用之「線性電路設計與分析」專業知識。 本課程著重電路討論/問題解析，經由實際電路，培養同學的思考能力、線性電路之分析能力及線性電路之設計能力。 上課教師傳授在中山科學研究院工作時，實際電子電路的研究經歷，對學生的分析與設計能力有所啟發。以本課程為基礎，未來在職場上可繼續精進相關知識與技術，發揮電機系學生的本質才能，有利職場發展。	The objective of this course is to teach students to understand the principle of “Analysis and Design of Linear Circuits” and to reinforces a student’s grasp of circuit analysis fundamentals. Linear components and Op-Amp is the core of linear circuits, then some application of Op-Amp on analog circuits will be introduced widely. With the theories of linear circuits provided in this course, the students will have ability of problem analysis and resolution, as well the linear circuit design. In addition to theories, the course provides the some concepts of different disciplines used to design electricity products based on Linear Circuits. Therefore the students will be trained to own technology to design a practical circuit. Consequently, they can develop individual career in the field of Analysis and Design of Linear Circuits.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG1、SDG4、SDG8、SDG9、SDG10、SDG12
2022	PH.D Program	D53014J7	1	A	積體電路設計與製程原理	Theory of Integreted Circuits Design & Fabrication	本課程為教育部積體電路(IC)整合性人才培育計畫之核心系列課程，旨在使本校學生，對於IC設計與製程之演進，重要理論與觀念，及在其他相關領域之應用，有深刻認識瞭解。	Integrated Circuits (ICs) concern the correctness, reliability, productivity, and optimization of system construction. It is an interdisciplinary field, where electrical engineering and computer sciences intersect. In IC, theoretical computer science (including algorithms, complexity, automata, logic, programming languages, etc.) finds rich and practical applications.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG4、SDG9
2022	PH.D Program	D53014O7	1	A	半導體新穎發光元件導論	Introduction to Novel Semiconductor Light-emitting Devices	本課程將介紹半導體發光元件的基本原理與相關的應用，期望透過此課程可了解發光二極體與半導體雷射的元件物理特性，可了解半導體發光元件的發展趨勢。	This course will introduce the operation principles and applications of semiconductor light-emitting devices. It is expected that through this course, we can understand the physical properties of light-emitting diodes and semiconductor lasers, and be familiar with the development trend of semiconductor light-emitting devices.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG4、SDG8、SDG9
2022	PH.D Program	D53014J7	1	A	積體電路設計與製程原理	Theory of Integreted Circuits Design & Fabrication	本課程為教育部積體電路(IC)整合性人才培育計畫之核心系列課程，旨在使本校學生，對於IC設計與製程之演進，重要理論與觀念，及在其他相關領域之應用，有深刻認識瞭解。	Integrated Circuits (ICs) concern the correctness, reliability, productivity, and optimization of system construction. It is an interdisciplinary field, where electrical engineering and computer sciences intersect. In IC, theoretical computer science (including algorithms, complexity, automata, logic, programming languages, etc.) finds rich and practical applications.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG4、SDG9
2022	PH.D Program	D53014O8	1	A	強化學習控制與其應用	Introduction to Reinforcement Learning Control and Its Applications	本課程主要介紹強化學習控制技術之基礎與及相關應用。課程主要針對強化學習控制之核心理論與深度強化學習方法進行介紹。期使同學能了解強化學習與深度強化學習控制之精神，並學習如何運用此技術於不同之系統，如機器人。並期許同學日後能更進一步開發創新之應用。	This course introduces the fundamentals and applications of Intensive Learning Control (ILC). The course focuses on the core theory of Reinforced Learning Control and Deep Reinforced Learning methods. It is expected that students can understand the spirit of Reinforced Learning and Deep Reinforced Learning Control, and learn how to apply this technology to different systems, such as robots. Students are expected to further develop innovative applications in the future.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG4
2022	PH.D Program	D5301V94	1	A	類神經網路	Neural Networks	學習應用人工智慧領域中最成熟之技術:"類神經網路"於解決諸多工程問題: 如:分類、分群、最佳化等問題	To gain comprehensive knowledge of neural network model, both in theory and applications.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG1、SDG3、SDG4、SDG5、SDG9、SDG14
2022	PH.D Program	D5311I38	1	A	專題討論	Seminar	讓學生了解如何寫學術論文. 訓練學生準備研討會論文的技巧.	To prepare students with knowledges of how to write academic papers. To train students with skills of presenting papers in a conference.	1	Required Course	電機工程學系博士班 Department of Electrical Engineering	SDG4、SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	PH.D Program	D53014BF	1	A	電氣產品研發實務	Practice on Electric Product Research	本課程適用於碩士班,博士班與大學部即將畢業之同學,以電器產品研發之實務工作為基礎. 上課同學可建立未來職場有關電氣產品研發實務的觀念．經由知識傳授、案例討論/問題解析(著重於問答+思考方式)．培養同學的思考能力、資料收集與分析能力、問題解決能力、決策能力及克服困難的意志力．團隊合作議題加亦加以著墨。 授課老師以自身在研究機構20年的高科技電機/電子實際研發經驗與日常接觸電機產業之心得．傳授給學生．使學生在學習之後．對於未來的電氣產品研發實務與個人職場經營有所掌握．可贏在起跑點。可幫助同學減少摸索期程與創業失敗的機會。學生自省後．覺得尚有不足之處．可在	The objective is to teach students to understand the electric industries in Taiwan, to have ability of problem analysis and resolution and to develop individual career during their life. After the training of design process, system integration, project management and quality control on electric product, they can apply and implement their knowledge and skills of electrical engineering disciplines to the industries field smoothly, as well can demonstrate their performances. Therefore, those products possess commercial value and their career will be enlarged step by step.	3	Elective Course	電機工程學系博士班 Department of Electrical Engineering	SDG1、SDG4、SDG8、SDG9、SDG12
2022	Contiuning Education Master	T4301021	1	A	人工智慧	Artificial Intelligence	學習人工智慧基礎理論與應用技術	Learn the basic theory and application techniques of artificial intelligence	3	Elective Course	電機工程學系碩士在職專班 Department of Electrical Engineering	SDG1、SDG2、SDG5、SDG7、SDG10、SDG11、SDG13、SDG14、SDG15、SDG17
2022	Undergraduate	B6F01NNX	1	B	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	1.培養學生對學校的認同感與向心力。 2.讓學生從服務中學習自我成長與社會關懷。 3.讓學生帶著他們才華、樂觀和同理心去改變世界。	1. To Cultivate Students" Sense of Identity and Solidarity with the Campus. 2. Let Students Learn Self-Development, Self-Awareness and Social Concern from Service. 3. Empower Students to Change the world with Optimism and Empathy.	0	Service Learning Program	輪機工程學系 Department of Marine Engineering	SDG1、SDG3、SDG4、SDG5、SDG6、SDG7、SDG8、SDG10、SDG11、SDG16
2022	Undergraduate	B6F01M97	1	B	微積分(一)	Calculus I	本課程遵照國際海事組織(IMO) Model Course 7.03 Supporting Knowledge Outline- Mathematics之規範．兼顧相關必要知識或技能之傳授．目標為讓學生瞭解何謂微積分,學習基本的微分和積分的運算並讓學生知道微積分在工程上之運用。	The main objective of Calculus is for students to learn the basics of the calculus of functions of single and multi-variable. They will study transcendental functions, limits, differentiation and an introduction to the Riemann integral, culminating with the Fundamental Theorem of Calculus. They will also apply these ideas to a wide range of problems that include the equations of motion, related rates, curve sketching and optimization. The students should be able to interpret the concepts of Calculus algeb	3	Required Course	輪機工程學系 Department of Marine Engineering	SDG1、SDG4、SDG8、SDG9、SDG10
2022	Undergraduate	B6F01L6A	1	B	普通物理	General Physics	教導學生熟悉物理之基本原理．包含牛頓力學．圓周運動．能量與動量．流體．彈性與振盪．波動．熱力學以及電磁學之基礎觀念．奠定往後進階學習與研究之根基。	The aims of this course are to learn the basic theories of physics. This course includes fundamental concepts about the Newton's mechanics, circular motion, energy and momentum, fluids, elasticity and oscillations, waves, thermodynamics and electromagnetics. It is expected the learning will build up the excellent basis for advanced studies.	3	Required Course	輪機工程學系 Department of Marine Engineering	SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15
2022	Undergraduate	B6F01L6A	1	A	普通物理	General Physics	教導學生熟悉物理之基本原理．包含牛頓力學．圓周運動．能量與動量．流體．彈性與振盪．波動．熱力學以及電磁學之基礎觀念．奠定往後進階學習與研究之根基。	The aims of this course are to learn the basic theories of physics. This course includes fundamental concepts about the Newton's mechanics, circular motion, energy and momentum, fluids, elasticity and oscillations, waves, thermodynamics and electromagnetics. It is expected the learning will build up the excellent basis for advanced studies.	3	Required Course	輪機工程學系 Department of Marine Engineering	SDG3、SDG4、SDG6、SDG7、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15
2022	Undergraduate	B6F01M97	1	A	微積分(一)	Calculus I	本課程遵照國際海事組織(IMO) Model Course 7.03 Supporting Knowledge Outline- Mathematics之規範．兼顧相關必要知識或技能之傳授．目標為讓學生瞭解何謂微積分,學習基本的微分和積分的運算並讓學生知道微積分在工程上之運用。	The main objective of Calculus is for students to learn the basics of the calculus of functions of single and multi-variable. They will study transcendental functions, limits, differentiation and an introduction to the Riemann integral, culminating with the Fundamental Theorem of Calculus. They will also apply these ideas to a wide range of problems that include the equations of motion, related rates, curve sketching and optimization. The students should be able to interpret the concepts of Calculus algeb	3	Required Course	輪機工程學系 Department of Marine Engineering	SDG1、SDG4、SDG8、SDG9、SDG10
2022	Undergraduate	B6A02690	2	A	材料力學	Mechanics of Materials	使學生了解材料力學中的基礎概念與分析方法．讓學生學習如何分析機械結構受外力作用時．材料內部的力量分布、應力應變狀態、與結構變形。	Students are introduced to the basic concepts and analytical methods of material mechanics, and learn how to analyse the distribution of forces within a material, the state of stress, and the deformation of a mechanical structure when it is subjected to external forces.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG4、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12
2022	Undergraduate	B6A03152	3	A	內燃機學	Internal Combustion Engine	本課程目標主要為提供學生最新且全面知識瞭解內燃機之基本應用熱力運轉理論。課程範圍包含所有大型如固定式與船舶用引擎及小型如玩具使用之引擎．主要著重於汽車及相關應用之往復式引擎為主。課程涵蓋內燃機之燃料使用、燃燒、熱傳、潤滑及流體力學等之基本理論、循環、吸氣、汽缸內流動、燃燒、排氣、引擎污染排放與空氣污染等主題。 此課程符合STCW 公約表A-III/1 有關輪機工程操作級能力之強制要求的知識、瞭解及熟練(This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/1 of STCW	This course provides updated and comprehensive coverage of the applied thermodynamics operating principles of the internal combustion engine for students. The scope of this course includes all IC engines from largest stationary and ship engines down to the smallest engines used on tools and toys, with emphasis on reciprocating engines used in automobiles and similar applications. The course covers the fundamentals of fuels, combustion, heat transfer, lubrication, and fluid mechanics as applied in the oper	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG13

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B6A02088	2	A	工程數學(二)	Engineering Mathematics(Ⅱ)	本課程提供學生瞭解工程數學範疇，包括於物理、數學、電腦科學及相關領域在工程上之運用，並且教授相關解決問題之能力。	This course provides a comprehensive, thorough, and up-to-date treatment of engineering mathematics. It is intended to introduce students of engineering, physics, mathematics, computer science, and related fields to those areas of applied mathematics that are most relevant for solving practical problems. A course in elementary calculus is the sole prerequisite.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG1、SDG4、SDG9、SDG10
2022	Undergraduate	B6A0222D	2	A	專題研究(二)	Research in Special Topics (Ⅱ)	期望修習本專題學生能在奈米技術、電磁波新能源技術上的理論與實務相互配合印證獲得成長。	This course will let the students be trained with nanotechnology, electromagnetic new energy techniques for connecting theories and operations.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG9、SDG11、SDG12
2022	Undergraduate	B6A03692	3	A	材料性質學	Materials Properties	期望修習本課程學生學習材料基本電子理論，進而了解材料電子性質、光學性質、磁性與熱性質之起源與應用。並進而實用在材料製程之應用。	The aims of this course are to learn the fundamentals of electron theory of materials. Let the learners understand the origin and applications about various electronic properties, optical properties, magnetic properties and thermal properties of materials. After the fundamental learning, the students can apply materials properties in materials processing.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG11、SDG12、SDG13
2022	Undergraduate	B6A0422C	4	A	專題研究(六)	Research in Special Topics (VI)	期望修習本專題學生能在奈米技術、燃料電池新能源技術上的理論與實務相互配合印證獲得成長。	This course will let the students be trained with nanotechnology, fuel cell new energy and electrochemical techniques for connecting theories and operations.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG11、SDG12
2022	Undergraduate	B6A01070	1	A	工程材料學	Engineering Materials	本課程希望學習到材料基本鍵結與結晶構造，了解金屬熔融固化流程之相變化，進而認知熟練金屬鐵-碳相圖與各種合金之機械性質。另外學習工程陶瓷之製程與結構特性及其應用。以使修習本課程後之學生了解材料結構特性在工程應用之重要性及在未來材料與能源領域進階學習之基礎。 此課程符合STCW 公約表A-III/1 有關輪機工程操作級能力之強制要求的知識、瞭解及熟練(This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/1 of STCW	The aims of this course are to learn the bonding and crystal structures of materials, to understand phase transformation of metals during melting/solidification, then to familiarize with metallic iron-carbon phase diagrams and mechanical properties of a variety of alloys. On the other hand, learners will catch the knowledge of processing of engineering ceramics and the structural characteristics in various applications. Therefore, students will fully understand the importance of material structures in engineering.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15
2022	Undergraduate	B6A0322B	3	A	專題研究(四)	Research in Special Topics (IV)	期望修習本專題學生能在奈米技術與光電轉換技術上的理論與實務相互配合印證獲得成長。	This course will let the students be trained with nanotechnology and electro-optic trnasfer techniques for connecting theories and operations.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG11、SDG12
2022	Undergraduate	B6A01NNY	1	A	服務學習_愛校服務(Ⅱ)	Service-Learning Program-Campus Service(Ⅱ)	目的：提昇同學服務人群，回饋社會的觀念，並親身體驗「助人為快樂之本」。	Objective: To promote the concept of serving people and giving back to the community, and to experience first-hand that "helping others is the basis of happiness".	0	Service Learning Program	輪機工程學系能源應用組 Department of Marine Engineering	SDG4
2022	Undergraduate	B6A01U24	1	A	靜力學	Statics	介紹靜力學基本定律(合力平衡和合力矩平衡)，並建立學生對力系之基本觀念，再將之應用於機械系統(結構與桿件)分析上。	To introduce the basic laws of statics (equilibrium of joint forces and equilibrium of joint moments) and to establish the student's basic concepts of force systems, which are then applied to the analysis of mechanical systems (structures and rods).	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG4、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12
2022	Undergraduate	B6A02D05	2	A	保全職責	Security Duty	本課程係依據STCW公約規則VI/5、STCW章程A-VI/5、1974年海上人命安全國際公約(SOLAS)及其修正案第XI-2強制性求、國際船舶和港口設施保全章程(ISPS Code)第A篇(強制性)和第B篇(建議性)規定，作為課程內容。	This Course is based on the“International Shipping and Port Facility Security Code (ISPS Code)” in XI-2 Special measures to enhance maritime security in the International Convention for the Safety of Life at Sea (SOLAS)and STCW A- VI/5. enabling students to know The ISPS CODE and duty.	2	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG13、SDG14
2022	Undergraduate	B6A0208A	2	A	工程數學(一)	Engineering Mathematics (I)	本課程遵照國際海事組織(IMO) Model Course 7.03 Supporting Knowledge Outline- Mathematics之規範，兼顧相關必要知識或技能之傳授，提供學生瞭解工程數學範疇，包括於物理、數學、電腦科學及相關領域在工程上之運用，並且教授相關解決問題之能力。	This course provides a comprehensive, thorough, and up-to-date treatment of engineering mathematics. It is intended to introduce students of engineering, physics, mathematics, computer science, and related fields to those areas of applied mathematics that are most relevant for solving practical problems. A course in elementary calculus is the sole prerequisite.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG1、SDG4、SDG8、SDG9、SDG10
2022	Undergraduate	B6A0322E	3	B	專題研究(三)	Research in Special Topics (Ⅲ)	計算流體力學（CFD）在工程問題上的應用，而不是網格建立技術、離散化的方法、CFD運算法或數值穩定性。	The application of computational fluid dynamics (CFD) to engineering problems, rather than grid-building techniques, discretization methods, CFD algorithms, or numerical stability.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG14
2022	Undergraduate	B6A03P17	3	A	電子學	Electronics	1.使學生瞭解半導體電子元件的基本操作原理，並具有分析類比或積體電子電路之能力。 2.讓學生瞭解最新半導體電子元件於產業界之應用與發展趨勢，並具備電子電路設計與應用於實務之能力。	1. To enable students to understand the basic operating principles of semiconductor electronic components, and have the ability to analyze analog or integrated electronic circuits. 2. Let students understand the application and development trend of the latest semiconductor electronic components in the industry, and have the ability to design and apply electronic circuits in practice.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B6A0423P	4	C	專題研究(五)	Research in Special Topics (Ⅴ)	計算流體力學（CFD）在工程問題上的應用，而不是網格建立技術、離散化的方法、CFD運算法或數值穩定性。	The application of computational fluid dynamics (CFD) to engineering problems, rather than grid-building techniques, discretization methods, CFD algorithms, or numerical stability.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG13、SDG14
2022	Undergraduate	B6A01M97	1	A	微積分(一)	Calculus I	本課程遵照國際海事組織(IMO) Model Course 7.03 Supporting Knowledge Outline- Mathematics之規範，兼顧相關必要知識或技能之傳授，目標為讓學生瞭解何謂微積分,學習基本的微分和積分的運算並讓學生知道微積分在工程上之運用。	The main objective of Calculus is for students to learn the basics of the calculus of functions of single and multi-variable. They will study transcendental functions, limits, differentiation and an introduction to the Riemann integral, culminating with the Fundamental Theorem of Calculus. They will also apply these ideas to a wide range of problems that include the equations of motion, related rates, curve sketching and optimization. The students should be able to interpret the concepts of Calculus algeb	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG1、SDG4、SDG9、SDG10
2022	Undergraduate	B6A0216S	2	B	專題研究(一)	Research in Special Topics (I)	期望修習本專題學生能在奈米技術、燃料電池新能源技術上的理論與實務相互配合印證獲得成長。	This course will let the students be trained with nanotechnology, fuel cell new energy and electrochemical techniques for connecting theories and operations.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG6、SDG7、SDG11、SDG14、SDG15
2022	Undergraduate	B6A0316S	3	A	專題研究(一)	Research in Special Topics (I)	期望修習本專題學生能在機電與結構技術上的理論與實務相互配合印證。	It is expected that students of this programme will be able to demonstrate the theoretical and practical aspects of electro-mechanical and structural technology.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG1、SDG3、SDG4
2022	Undergraduate	B6A03S51	3	A	熱傳學	Heat Transfer	讓學生建立必須的熱傳學基礎概念。內容包括熱傳導、熱對流和熱輻射的基本控制方程式、簡化問題的求解方式和工程上所遭遇到的問題和解決方法。修習本課程後學生應建立完整的基礎概念。對工程上熱傳問題有解決能力。	To use heat transfer principles to understand the behavior of thermal systems. To illustrate the development of the governing differential, algebraic and finite difference equations associated with thermal systems. To introduce the possible methods of solution to the governing equation. To investigate the influences of boundary and initial conditions and system parameters on the resulting steady or transient response of the system. To provdive the basic tools that are used in thermal system design. To exp	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG13、SDG14
2022	Undergraduate	B6A02088	2	A	工程數學(二)	Engineering Mathematics(Ⅱ)	本課程提供學生瞭解工程數學範疇，包括於物理、數學、電腦科學及相關領域在工程上之運用，並且教授相關解決問題之能力。	This course provides a comprehensive, thorough, and up-to-date treatment of engineering mathematics. It is intended to introduce students of engineering, physics, mathematics, computer science, and related fields to those areas of applied mathematics that are most relevant for solving practical problems. A course in elementary calculus is the sole prerequisite.	3	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG1、SDG4、SDG9、SDG10
2022	Undergraduate	B6A0222D	2	A	專題研究(二)	Research in Special Topics (Ⅱ)	本課程之目的在於讓有興趣進修研究所的同學，可提前進入實驗室並接觸研究相關主題。	The purpose of this programme is to provide students who are interested in pursuing graduate studies with early access to laboratories and exposure to research-related topics.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG9、SDG9、SDG11、SDG12
2022	Undergraduate	B6A0322E	3	A	專題研究(三)	Research in Special Topics (Ⅲ)	期望修習本專題學生能在奈米技術與光電轉換技術上的理論與實務相互配合印證獲得成長。	This course will let the students be trained with nanotechnology and electro-optic trnasfer techniques for connecting theories and operations.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG6、SDG7、SDG9、SDG11、SDG14、SDG15
2022	Undergraduate	B6A0216S	4	A	專題研究(一)	Research in Special Topics (I)	本課程主要以訓練大學部學生創新想法並付諸實現為前提;以基礎學理根據輔以相關實際方法將創新想法一步一步的實現,期可將學理與實作搭配,培養大學部學生具有創新的競爭力。	This programme focuses on the training of university students in innovative ideas and put them into practice as a prerequisite; based on the basic theories supplemented by relevant practical methods of innovative ideas step by step to achieve, can be paired with the theory and practice, and to cultivate the competitiveness of the university students with innovation.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG2、SDG6、SDG7、SDG10、SDG12、SDG14
2022	Undergraduate	B6A02S47	2	A	熱力學	Thermodynamics	熱力學為以應用物理為基礎之學科，討論關於能量、功與熱之相互關係。熱力學觀念為分析所有機械工程問題之基礎，因此，本課程之目標為教授學生對於實際問題能有效利用熱力學知識分析之。	Thermodynamics is an engineering cours based on applied physics and particularly interested in relationships between energy, work and heat. Thermodynamic concepts are essential for analyzing almost all Mechanical Engineering problems, hence, the objective of this course is to educate engineering students so they are able to effectively utilize thermodynamics for practical problem solving.	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG13
2022	Undergraduate	B6A03152	3	A	內燃機學	Internal Combustion Engine	本課程目標主要為提供學生最新且全面知識瞭解內燃機之基本應用熱力運轉理論。課程範圍包含所有大型如固定式與船舶用引擎及小型如玩具使用之引擎，主要著重於汽車及相關應用之往復式引擎為主。課程涵蓋內燃機之燃料使用、燃燒、熱傳、潤滑及流體力學等之基本理論、循環、吸氣、汽缸內流動、燃燒、排氣、引擎污染排放與空氣污染等主題。 此課程符合STCW 公約表A-III/1 有關輪機工程操作級能力之強制要求的知識、瞭解及熟練(This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/1 of STCW	This course provides updated and comprehensive coverage of the applied thermodynamics operating principles of the internal combustion engine for students. The scope of this course includes all IC engines from largest stationary and ship engines down to the smallest engines used on tools and toys, with emphasis on reciprocating engines used in automobiles and similar applications. The course covers the fundamentals of fuels, combustion, heat transfer, lubrication, and fluid mechanics as applied in the oper	3	Required Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG7、SDG13

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2022	Undergraduate	B6A0423P	4	A	專題研究(五)	Research in Special Topics (Ⅴ)	期望修習本專題學生能在奈米技術、燃料電池與儲光新能源技術上的理論與實務相互配合印證獲得成長。	This course will let the students be trained with nanotechnology, fuel cell and optical storage new energy and electrochemical techniques for connecting theories and operations.	1	Elective Course	輪機工程學系能源應用組 Department of Marine Engineering	SDG3、SDG6、SDG7、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15
2022	Undergraduate	B6D042WG	4	A	輪機高階陸上實習	Advanced Marine Engineering Land Internship	本課程主要使同學除了課堂上的學習，也深入真實職場歷練，並將課堂上的學問應用於職場，或將職場的問題帶回課堂與同學分享。	This programme aims to provide students with not only classroom learning, but also in-depth real-life workplace experience, so that they can apply what they have learnt in the classroom to the workplace, or bring the problems in the workplace back to the classroom to share with their classmates.	3	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG8、SDG9、SDG10、SDG13
2022	Undergraduate	B6D01U24	1	A	靜力學	Statics	介紹靜力學基本定律(合力平衡和合力矩平衡)，並建立學生對力系之基本觀念，再將之應用於機械系統(結構與桿件)分析上。	To introduce the basic laws of statics (equilibrium of joint forces and equilibrium of joint moments) and to establish the student's basic concepts of force systems, which are then applied to the analysis of mechanical systems (structures and rods).	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG3、SDG4、SDG7、SDG8、SDG9、SDG10、SDG12、SDG16
2022	Undergraduate	B6D02P53	2	A	電機機械	Electric Machines	1.瞭解電機機械之基本知識與操作原理。 2.認識電機機械之種類、構造、特性及產業應用。 3.培養電機機械之運轉、操作及維護能力。	1. Understand the basic knowledge and operating principles of electric machinery. 2. Know the types, structures, characteristics and industrial applications of electric machinery. 3. Cultivate the operation and maintenance ability of electric machinery.	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG9
2022	Undergraduate	B6D032K4	3	A	應用電學實驗	Appiled Eletrical Experiments	應用電學實驗課程主要是讓學生能將所學的電學知識應用於日常生活，讓學生從簡單的實驗操作，就能達到學以致用的目的，本課程將設計多項有關電學應用的小實驗，進而規劃期末專題，期能引發學生發掘問題及創造思考，同時發揮同學創意專題製作及團隊合作學習，使得學生具有獨立解決問題及邏輯思考的能力。	Applied Electricity Laboratory Programme is mainly to enable students to apply the knowledge of electricity in daily life, so that students from simple experimental operations, can achieve the purpose of learning to use, this course will design a number of small experiments on the application of electricity, and then plan the final project, which is expected to stimulate students to explore the problem and creative thinking, and at the same time give full play to the students' creativity in the production of the project and teamwork, so that students have the ability to solve problems and think logically independently. Students will be able to solve problems independently and think logically.	1	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG9
2022	Undergraduate	B6D042WF	4	A	輪機中階陸上實習	Itermediate Marine Engineering Land Internship	本課程主要使同學除了課堂上的學習，也深入真實職場歷練，並將課堂上的學問應用於職場，或將職場的問題帶回課堂與同學分享。	This programme aims to provide students with not only classroom learning, but also in-depth real-life workplace experience, so that they can apply what they have learnt in the classroom to the workplace, or bring the problems in the workplace back to the classroom to share with their classmates.	2	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG8、SDG9、SDG11、SDG14
2022	Undergraduate	B6D042WE	4	A	輪機初階陸上實習	Primary Marine Engineering Land Internship	本課程主要使同學除了課堂上的學習，也深入真實職場歷練，並將課堂上的學問應用於職場，或將職場的問題帶回課堂與同學分享。選修本課程同學請先與授課老師討論實習地點。	This course is designed to provide students with not only classroom learning, but also in-depth workplace experience, to apply classroom learning to the workplace, or to bring workplace problems back to the classroom to share with students. Students who choose to take this programme should discuss with the lecturer about the place of internship first.	1	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1
2022	Undergraduate	B6D01070	1	A	工程材料學	Engineering Materials	本課程希望學習到材料基本鍵結與結晶構造，了解金屬熔融固化流程之相變化，進而認知熟練金屬鐵-碳相圖與各種合金之機械性質。另外學習工程陶瓷之製程與結構特性及其應用。以使修習本課程後之學生了解材料結構特性在工程應用之重要性及在未來材料與能源領域進階學習之基礎。 此課程符合STCW 公約表A-III/1 有關輪機工程操作級能力之強制要求的知識、瞭解及熟練(This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/1 of STCW	The aims of this course are to learn the bonding and crystal structures of materials, to understand phase transformation of metals during melting/solidification, then to familiarize with metallic iron-carbon phase diagrams and mechanical properties of a variety of alloys. On the other hand, learners will catch the knowledge of processing of engineering ceramics and the structural characteristics in various applications. Therefore, students will fully understand the importance of material structures in engineering.	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG7、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15
2022	Undergraduate	B6D02088	2	A	工程數學(二)	Engineering Mathematics (II)	本課程提供學生瞭解工程數學範疇，包括於物理、數學、電腦科學及相關領域在工程上之運用，並且教授相關解決問題之能力。	This course provides a comprehensive, thorough, and up-to-date treatment of engineering mathematics. It is intended to introduce students of engineering, physics, mathematics, computer science, and related fields to those areas of applied mathematics that are most relevant for solving practical problems. A course in elementary calculus is the sole prerequisite.	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG6

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B6D03S51	3	A	熱傳學	Heat Transfer	本課程旨在介紹，三種熱傳模式，即傳導、對流、輻射之基本原理及相關工程應用，包括散熱鰭片、熱交換器等。 吾人期使同學在修完本門課程可具備下列能力： 1.說明熱傳三種模式及描述此三種模式的定律與基礎方程式。 2.了解熱阻的定義與應用，並能以熱阻方式分析穩態一維熱傳導問題。 3.了解散熱鰭片的功能，並能分析簡單之散熱片問題。 4.具備分析多維穩態熱傳問題。 5.具備分析暫態熱傳導問題。 6.具備運用經驗公式分析熱對流問題能力。	BASIC CONCEPTS OF THERMODYNAMICS AND HEAT TRANSFER HEAT CONDUCTION EQUATION STEADY HEAT CONDUCTION TRANSIENT HEAT CONDUCTION FORCED CONVECTION NATURAL CONVECTION BOILING AND CONDENSATION HEAT TRANSFER RADIATION HEAT TRANSFER	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG7、SDG13
2022	Undergraduate	B6D03P17	3	A	電子學	Electronics	以半導體為基礎,介紹其電子與電流的應用,幫助學員熟悉相關於電路,電機設備以及自動控制儀器與系統的操作,測試與維修	Based on semiconductor, with the introduction of applications of electron and electric current, helping students to get familiar with the operation, testing and maintenance of electrical circuits, equipments and control instruments.	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG8、SDG9
2022	Undergraduate	B6D040KO	4	A	渦輪機	Turbine	本課程宗旨與目的,是使得學生,在本課程學習中,對船舶原動力廠,有基礎知識與認識.其中包括有,穩定流能量方程式,熱力學第一與第二定律,蒸氣,氣體行徑,熱效率,蒸汽動力廠類型,噴嘴,引擎測試數據,齒輪裝置,齒輪系統裝置等...基本機構裝置.	This course provides the background knowledge and practical work to support： 1.operation and theoritical evaluation of turbine engine performance and capacity 2.maintaining safety of engine equipment, system and services. 3.basic ability for managing and planning the steam turbine power plant.	3	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG7、SDG13
2022	Undergraduate	B6D051K7	5	A	海上進階實習	Advance Practice at Sea	到商船實際體驗實習船上主機與副機及船操作保養與維修	Practical experience on board a merchant ship in the operation, maintenance and repair of the ship's main engine and auxiliary engine.	9	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG4、SDG5、SDG8、SDG9、SDG14
2022	Undergraduate	B6D034OB	3	A	艦船工程技術與設計(一)	Engineering Technology and Design of Ship I	藉由本課程讓學生了解艦船設計單位之運作模式與設計流程，廣泛性學習艦舶設計基礎知識與技能，建立學生職前應具備基礎艦舶設計技術能力。	Students can understand the operation and process of ship design department from this course, extensively learn the basic knowledge and skills of ship design, and establish the capabilities before entering the workforce and being a ship designer.	3	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG4、SDG8、SDG9
2022	Undergraduate	B6D01M97	1	A	微積分(一)	Calculus I	本課程遵照國際海事組織(IMO) Model Course 7.03 Supporting Knowledge Outline- Mathematics之規範，兼顧相關必要知識或技能之傳授，目標為讓學生瞭解何謂微積分,學習基本的微分和積分的運算並讓學生知道微積分在工程上之運用。	The main objective of Calculus is for students to learn the basics of the calculus of functions of single and multi-variable. They will study transcendental functions, limits, differentiation and an introduction to the Riemann integral, culminating with the Fundamental Theorem of Calculus. They will also apply these ideas to a wide range of problems that include the equations of motion, related rates, curve sketching and optimization. The students should be able to interpret the concepts of Calculus algeb	3	Required Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG4、SDG9、SDG10
2022	Undergraduate	B6D042WE	4	A	輪機初階陸上實習	Primary Marine Engineering Land Internship	本課程主要使同學除了課堂上的學習，前往由系上認可之公司進行實習，也深入真實職場歷練，並將課堂上的學問應用於職場，或將職場的問題帶回課堂與同學分享。	In addition to classroom learning, this programme enables students to go on internships in companies recognised by the department, and to have in-depth experience in the real workplace, and to apply what they have learnt in the classroom to the workplace, or to bring problems from the workplace back to the classroom to share with the students.	1	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1
2022	Undergraduate	B6D01NNX	1	A	服務學習_愛校服務(I)	Service-Learning Program-Campus Service(I)	1.培養學生對學校的認同感與向心力。 2.讓學生從服務中學習自我成長與社會關懷。 3.讓學生帶著他們才華、樂觀和同理心去改變世界。	1. Cultivate students' sense of identity and centripetal force towards the school. 2. To enable students to learn about self-growth and social concern through service. 3. To enable students to bring their talents, optimism and empathy to change the world.	0	Service Learning Program	輪機工程學系動力工程組 Department of Marine Engineering	SDG3、SDG4、SDG5、SDG6、SDG10、SDG12
2022	Undergraduate	B6D041AM	4	A	輪機實務講座	Lectures for Marine Engineering Practice	本課程由任課老師及所邀請的企業主管共同講授, 企業主管並多為本系(校)在輪機與海運領域表現傑出之校友, 課程內容涵蓋輪機與海運實務, 進階而多元, 適合輪機系選擇上船或陸地就業不同發展的同學, 也適合航運管理系以及相關學系同學選修, 以培養具有責任感與國際觀的海大學子為教學目標.	This course is jointly taught by the instructors and invited business executives, and most of the business executives are alumni of the department (school) who have outstanding performance in the field of shipping and marine transportation. The course covers the practical aspects of shipping and marine transportation, and is advanced and diversified, which is suitable for students of the department of shipping who choose to go on board a ship or land employment for different development, and also suitable for students of the department of shipping management and other related disciplines, in order to cultivate the students of the University of the Sea who have a sense of responsibility and an international outlook as the goal of the teaching.	2	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG3、SDG4、SDG7、SDG13

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2022	Undergraduate	B6D042WF	4	A	輪機中階陸上實習	Itermediate Marine Engineering Land Internship	本課程主要使同學除了課堂上的學習，前往由系上認可之公司進行實習，也深入真實職場歷練，並將課堂上的學問應用於職場，或將職場的問題帶回課堂與同學分享。	In addition to classroom learning, this programme enables students to go on internships in companies recognised by the department, and to have in-depth experience in the real workplace, and to apply what they have learnt in the classroom to the workplace, or to bring problems from the workplace back to the classroom to share with the students.	2	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG8、SDG9、SDG11、SDG14
2022	Undergraduate	B6D042WG	4	A	輪機高階陸上實習	Advanced Marine Engineering Land Internship	本課程主要使同學除了課堂上的學習，前往由系上認可之公司進行實習，也深入真實職場歷練，並將課堂上的學問應用於職場，或將職場的問題帶回課堂與同學分享。	In addition to classroom learning, this programme enables students to go on internships in companies recognised by the department, and to have in-depth experience in the real workplace, and to apply what they have learnt in the classroom to the workplace, or to bring problems from the workplace back to the classroom to share with the students.	3	Elective Course	輪機工程學系動力工程組 Department of Marine Engineering	SDG1、SDG8、SDG9、SDG10、SDG13
2022	PH.D Program	D66011XW	1	A	進階電能轉換	Advanced Power Conversion	本課程將詳細介紹不同電能轉換器拓撲和系統的基礎知識和PWM操作原理分析，以提高效率、能量密度和與電網的友善界面。	This course will detail the basics of different power converter topologies and systems, as well as PWM operating principle analysis to improve efficiency, energy density and grid friendly interface.	3	Elective Course	輪機工程學系博士班 Department of Marine Engineering	SDG9
2022	PH.D Program	D66011IR	1	A	高等航海學(一)	Advanced Navigation (I)	隨著時代的變遷電子海圖顯示系統(ECDIS, Electronic Chart Display And Information System)為了安全的緣故要求高精度連續定位,GPS可以達到這要求這個，GPS的參考座標系統為WGS 84(World Geodetic System 1984)，雖然GPS定位非常精準;如果不準確航路規劃將會造成較大航行的誤差，以致於必須進行較大幅度及不經濟的連續修正航向,甚至航行到誤區產生航行安全的問題，因為GPS使用橢球體為參考座標，傳統上大圓航法的參考座標系統使用正圓球體，因此航程規劃所得的數據將會導致較大的誤差，如果將規劃航程使用的座標系統轉換成WGS 84參高座標系統，航路的規劃的精確性將會大大的提高。 本課程主要介紹WGS84地球座標系統,海圖投影,各種航線計算方式,以MATLAB之Map toolbox使用,Google Map的應用,各種定位求解方式。 本課程有以下的目標,可了解橢球座標系統的架構,海圖投影的方法,如何計算精密航線,並能夠利用電腦繪製海圖,應用Goole Map處理一些地理資訊問題,了解天文、沿岸標、衛星、手機基地台及各種地標的定位方法。	The science of Navigation has entered the electronic era with a great deal of enthusiasm and energy. Man-made sateliite have replaced the stars in the attention of the moderd navigator. The science is moving forward at a fast rate. But, during this time of great change, we have not perhaps paused to think how the classical methods of navigation seems to be deliberately designed to avoid the use of the calculus. For this reason methods are still in use which are only approximations.	3	Elective Course	輪機工程學系博士班 Department of Marine Engineering	SDG1、SDG2、SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG14、SDG15、SDG16、SDG17
2022	PH.D Program	D66012AA	1	A	再生能源發電系統	Power System of the Renewable Energy	瞭解太陽光發電目前發展與應用趨勢，並熟悉太陽能發電系統內所使用的設備、電能轉換的技術與運作原理。	Understanding the current developed and application trends in solar energy, and being familiar with the devices, technologies, and operating principles required to form photovoltaic (PV) generation systems.	3	Elective Course	輪機工程學系博士班 Department of Marine Engineering	SDG7
2022	PH.D Program	D66010KV	1	A	模糊控制	Fuzzy Control	讓學生了解模糊控制的發展現況，藉由理論與實務的探討，將模糊控制的應用介紹給同學們認識，並作為將來有志從事模糊控制 研究的同學一個良好的入門基礎。	This course is designed to provide students with an understanding of the current development of fuzzy control, to introduce the application of fuzzy control to students through theoretical and practical discussions, and to serve as a good introduction for students who wish to engage in fuzzy control research in the future. It also serves as a good foundation for students who wish to engage in fuzzy control research in the future.	3	Elective Course	輪機工程學系博士班 Department of Marine Engineering	SDG4
2022	Contiuning Education Master Degree	T4Q01AEM	1	A	能源材料應用	Applied Energy Materials	介紹材料基本結構特性，並教導學生了解材料特性在能源系統之應用，進而讓修習本課程學生了解世界與台灣應用能源材料的產業與發展。	Introduce the basic properties of materials structures . Further to teach students in understanding applications of the materials characteristics. Then, the learners will catch the energy materials applied in Taiwan industries and their development.	3	Elective Course	輪機工程學系碩士在職專班 Department of Marine Engineering	SDG7、SDG9、SDG12、SDG13、SDG14
2022	Contiuning Education Master Degree Program	T4Q01N9T	1	A	電腦輔助分析	Computer Aided Analysis	本課程之主要目標，乃介紹學生如何利用數值方法或電腦輔助軟體，求解一般工程所遭遇複雜力學問題。本課程擬結合基礎計算方法--有限元素法之理論及以其為基礎發展之設計分析軟體之應用，期使將理論與工程設計藉由電腦高速計算分析相結合，使學生建立基礎理論與設計分析之能力，以計算力學之基礎，則得以從事更高深的力學分析與研究。	The main objective of this course is to introduce students to the use of numerical methods or computer-aided software to solve complex mechanical problems encountered in general engineering. By combining the theory of the finite element method (FEM), a fundamental computational method, and the application of design analysis software based on it, the course aims to integrate theory and engineering design through high-speed computational analysis, so as to enable students to build up their basic theoretical and design analysis capabilities, and to engage in more advanced mechanical analysis and research with a foundation in computational mechanics.	3	Elective Course	輪機工程學系碩士在職專班 Department of Marine Engineering	SDG4、SDG9
2022	Contiuning Education Master	T4Q02DRM	1	A	研究方法討論	Discussion of Research Method	專門針對在職碩士班學生，以個人實際工作經驗為主題，量身訂製屬於自己的研究方法，藉以完成屬於碩士在職專班的碩士畢業論文為目的。	This course is designed for working master's students to complete their master's thesis by customising their own research methodology based on their practical work experience.	1	Elective Course	輪機工程學系碩士在職專班 Department of Marine Engineering	SDG4、SDG14

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2022	Master Program	M66011TE	1	A	結構分析	Structural Analysis	讓學生瞭解機械結構設計時之機械參數特性，利用簡單結構教導建立系統之物理及數學模型，以讓學生了解機械參數的特性及分析方式，更深一層的利用數值與實驗量測學習工程驗證之程序。	Students will understand the characteristics of mechanical parameters in the design of mechanical structures, and use simple structures to teach the creation of physical and mathematical models of systems, so that students can understand the characteristics of mechanical parameters and analysis methods, and deeper use of numerical and experimental measurements to learn the procedures of engineering verification.	3	Elective Course	輪機工程學系碩士班 Department of Marine Engineering	SDG4、SDG9、SDG11
2022	Master Program	M66014N4	1	A	輪機與風電產業科技發展與應用	Technology development and application of marine engineering and offshore wind power industry	輪機知識可彈性應用於各產業當中，又我國離岸風電發展配合政府政策於2025年高達6.9GW的建置目標正如火如荼展開，2030年區塊開發的9GW容量分配作業亦進行中，浮式風電技術更是於國際間逐漸商業化與快速發展。本課程透過輪機與離岸風場全生命週期涉及技術議題與產業訊息之宏觀且實質內涵為課程主體，期望同學於本課程除深入體會輪機學科應用，如輪機實務、輪機管理課程等外，並學習船舶輪機與離岸風電的專業知識，更養成同學宏觀之職涯視野。	英Marine Engineering can be flexibly applied to various industries, and the government"s goal of developing wind farm capacity up to 6.9GW in 2025 is in full swing. The 9GW capacity allocation for block development in 2030 is also underway. On the other hand, floating wind farm technology is gradually commercialized and developed rapidly internationally. This course mainly includes technical issues and industrial information involved in the full life cycle of marine engineering and offshore wind farms. It expects that students will not only deeply realize the application of marine engineering disciplines, such as marine engineering practice, marine engineering management, etc., but also learn the professional knowledge of marine engineering and offshore wind farm industry, as well as develop a macro career vision.	3	Elective Course	輪機工程學系碩士班 Department of Marine Engineering	SDG7、SDG9、SDG13、SDG14
2022	Master Program	M66010KT	1	A	工程分析	Engineering Analysis	建立工程分析的知識，學習如何去解有關物理的數學問題，例如變分學、協同理論、常微分方程式或偏微分方程式、逆運算法。藉由數理分析訓練去理解物理變量的真實意義。	Establish knowledge of advanced engineering analysis and learn how to solve Calculus of variation, synergy principle, ordinary differential equations,partial differential equations and Inverse method. Understand real meaning of physical parameters by mathematical training.	3	Elective Course	輪機工程學系碩士班 Department of Marine Engineering	SDG4
2022	Master Program	M66011GC	1	A	電力系統電腦應用	Computer Applications in Power System	教育學生瞭解電力系統分析的基本原理及計算機在實際問題上的應用，諸如系統最佳化、MATLAB簡介、電力潮流分析、故障分析、最佳調度、電力系統穩定度等，以培養學生應用觀念的成熟度，且增進思考的深度及廣度。	The students would understand: 1. System Optimization 2. Introduction to MATLAB 3. Power Flow Studies 4. Fault Studies 5. Optimal Dispatch 6. Power System Stability	3	Elective Course	輪機工程學系碩士班 Department of Marine Engineering	SDG7、SDG11
2022	Contiuning Education Bachelor Degree Program	E4Q0102J	1	B	人命安全與防止污染國際公約	Convention of SOLAS and MARPOL	1.國際海上人命安全公約(International Convention for Safety of Life at Sea 簡稱 SOLAS)（1974）是各締約國政府共同制訂的統一原則和有關規則，旨在增進海上人命安全。 2. MARPOL 73/78 公約是世界上最重要的國際海事環境公約之一，該公約旨在將向海洋傾倒汙染物、排放油類、以及項大氣排放有害氣體等汙染降至最低的水平。他的設定目標是:通過徹底消除像海洋中排放油類和其他有害物質，而造成的汙染來保持海洋的環境，並將意外排放此類物質所造成的汙染降至最低。	1. The International Convention for Safety of Life at Sea (SOLAS for short) (1974) is a unified principle and relevant rules jointly formulated by the contracting governments to improve the safety of life at sea. The MARPOL 73/78 Convention is one of the most important international maritime environmental conventions in the world. The convention aims to minimize the dumping of pollutants into the sea, the discharge of oil, and the emission of harmful gases into the atmosphere. His set goal: to preserve the environment of the oceans by completely eliminating pollution like the discharge of oil and other harmful substances in the ocean, and to minimise pollution caused by accidental discharges of such substances.	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG4、SDG6、SDG14、SDG15
2022	Contiuning Education Bachelor Degree Program	E4Q01S9A	1	A	輪機英文	Marine Engineer"s English	為配合IMO在1995所訂定的STCW，規範船員的適任能力，訓練輪機同學在英語應用的基礎能力	Training marine engineering students to build up their comprehensive of English to cope with STCW required by 1995 IMO meeting. Effective communication is a mandatory requirement of the IMO STCW Convention to ensure the safety of crews and vessels. This course is to develop students from marine engineering department with essential language skills.	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG1、SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG13、SDG14、SDG17
2022	Contiuning Education Bachelor Degree Program	E4Q01PST	1	A	人員求生技能	Personal Survival Techniques	1.知識：培育現代商船一等管輪應具備之條件及能力。 2.技能：學員將能在棄船後操作救生艇引擎、管理倖存者與救生筏，救難船使船員能在任何環境下成功的施放、及有效的利用通信和發信設備。 3.態度：認真負責	1. Knowledge: Cultivate the conditions and abilities that should be possessed by the first-class engineer engineer of modern merchant ships. 2. Skills: Students will be able to operate lifeboat engines after abandonment, manage survivors and life rafts, and rescue boats that enable crew to launch successfully in any environment, and effectively utilize communications and signaling equipment. 3. Attitude: serious and responsible	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG4、SDG14
2022	Contiuning Education Bachelor Degree Program	E4Q01S9A	1	B	輪機英文	Marine Engineer"s English	為配合IMO在1995所訂定的STCW，規範船員的適任能力，訓練輪機同學在英語應用的基礎能力	Training marine engineering students to build up their comprehensive of English to cope with STCW required by 1995 IMO meeting. Effective communication is a mandatory requirement of the IMO STCW Convention to ensure the safety of crews and vessels. This course is to develop students from marine engineering department with essential language skills.	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG1、SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG13、SDG14、SDG17

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2022	Contiuning Education Bachelor Degree Program	E4Q021KX	2	A	領導統御與機艙資源管理	Leadership and Engineroom Resource Management	提昇高級船員技術水準，使被指派於船上擔任輪機以上職務之輪機員達到輪機人員訓練發證及當值標準國際公約章程(STCW CODE)A-III/1 規則要求：「保持安全之輪機當值」之最低適任標準，使具備領導統御與機艙資源管理之知識，諸如資源的配置、分配與優先順序、通信、決斷與領導、危機管理、領導和工作負載管理等詳盡的知識及能力，以維持我國商船航行安全。 本課程使用輪機模擬機，以教導同學認識機艙環境與系統，機艙基本操作，並瞭解機艙有那些資源可以運用與管理。課程當中將教導同學如何評估運轉效率與系統健康狀況。由於人力資源也是機艙資源的一部份，本課程內容並包含領導統御與團隊管理以善用機艙的人力資源。 特別規定：*由於本課程可核發訓練證書,課程時數須符合規定，故本課程不允許無故缺課，否則成績將評定為不及格。	To upgrade the skill level of senior crew members so that those assigned to duties above the rank of Engineer on board ships meet the minimum competency standards required by the STCW CODE A-III/1 "Maintaining Safe Engine Duty". A minimum standard of competency in "Maintaining Safe Engine Manning" that provides knowledge of leadership and control and on-board resource management, such as resource allocation, distribution and prioritisation, communication, decision-making and leadership, Crisis management, leadership and workload management, etc., in order to maintain the safety of our merchant shipping.This course uses a simulator to teach students about the cabin environment and systems, basic cabin operations, and what resources are available and managed in the cabin. Students will also be taught how to assess operational efficiency and system health. Since human resources are also part of the cabin resources, this course also includes leadership and team management to optimise the use of human resources in the cabin.Special Requirements:* As this course is eligible for a training certificate, the number of course hours must be met, therefore, this course does not allow unexcused absences, otherwise the course grade will be assessed as a failing grade.	3	Elective Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG4、SDG8、SDG9、SDG13、SDG14
2022	Contiuning Education Bachelor Degree Program	E4Q01FT1	1	A	熱流學(一)	Thermal fluids dynamics I	熱力學為以應用物理為基礎之學科，討論關於能量、功與熱之相互關係。熱力學觀念為分析所有機械工程問題之基礎，因此，本課程之目標為教授學生對於實際問題能有效利用熱力學知識分析之。 此課程符合STCW 公約表A-III/1 有關輪機工程操作級能力之強制要求的知識、瞭解及熟練(This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/1 of STCW for the Competence Marine Engineering at the	Thermodynamics is an engineering cours based on applied physics and particularly interested in relationships between energy, work and heat. Thermodynamic concepts are essential for analyzing almost all Mechanical Engineering problems, hence, the objective of this course is to educate engineering students so they are able to effectively utilize thermodynamics for practical problem solving.	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG1、SDG4、SDG7、SDG9、SDG10、SDG14
2022	Contiuning Education Bachelor Degree Program	E4Q01FT1	1	B	熱流學(一)	Thermal fluids dynamics I	熱力學為以應用物理為基礎之學科，討論關於能量、功與熱之相互關係。熱力學觀念為分析所有機械工程問題之基礎，因此，本課程之目標為教授學生對於實際問題能有效利用熱力學知識分析之。	Thermodynamics is an engineering cours based on applied physics and particularly interested in relationships between energy, work and heat. Thermodynamic concepts are essential for analyzing almost all Mechanical Engineering problems, hence, the objective of this course is to educate engineering students so they are able to effectively utilize thermodynamics for practical problem solving.	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG1、SDG4、SDG7、SDG9、SDG10、SDG14
2022	Contiuning Education Bachelor	E4Q01BR1	1	A	鍋爐學	Boiler	培養學生具備基本鍋爐種類及原理、鍋爐安全與維護、鍋爐操作能力。	Train students to comprehension boiler principles and boiler safety maintenance	3	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG4、SDG7、SDG14
2022	Contiuning Education Bachelor	E4Q01DE1	1	A	船舶柴油機(一)	Marine Diesel Engines (1)	本課程的目標是讓學生了解船舶柴油機引擎的理論以及如何實務應用	The objective of this course is to provide students with an understanding of the theory of marine diesel engines and how it can be practically applied.	2	Required Course	輪機工程學系學士後多元專長培力課程專班 Department of Marine Engineering	SDG3、SDG5、SDG7、SDG8、SDG9、SDG13、SDG14
2022	Undergraduate	B7203672	3	A	冷凍與空調	Refrigeration and Air Conditioning	本課程介紹冷凍空調系統與其元件之基本理論及性能分析與設計。	This course introduces the basic theory, performance analysis and design of refrigeration air-conditioning systems and their components.	3	Elective Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG3、SDG4、SDG7、SDG8、SDG9、SDG11
2022	Undergraduate	B7201080	1	A	工程經濟學	Engineering Economics	計算與撰寫工程經濟報告、學習工程經濟方法 工程經濟學為協助工程開發計畫之財務與經濟可行性分析，為理性經濟決策之方法。讓同學可以學習與應用經濟分析與財務規劃技術，將工程方案之經濟因素如成本與收益，在使有限資源得到最佳分配與應用使利潤達到最佳化為原則下，對執行工程各種方案評比以為方案抉擇，做為降低風險，提高決策效率之工具之一。在工程界的同學未來就業時將有所幫助。 案評比以為方案抉擇，做為降低風險，提高決策效率之工具之一。在工程界的同學未來就業時將有所幫助。	Calculating and Writing Engineering Economics Reports, Learning Engineering Economics Methods Engineering Economics is a method of rational economic decision-making that assists in analysing the financial and economic feasibility of engineering development projects. So that students can learn and apply economic analysis and financial planning techniques, the economic factors such as costs and benefits of the engineering programme, in order to make the best allocation of limited resources and the application of the principle of optimizing profits, the implementation of a variety of engineering programmes to evaluate the choice of programmes, as a way to reduce risk and improve the efficiency of one of the tools of the decision-making process. It will be helpful for students in the engineering field when they seek employment in the future. The project evaluation is used to choose a solution as one of the tools to reduce risk and improve the efficiency of decision-making. It will be helpful in the future employment of students in the engineering field.	2	Elective Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG1、SDG4、SDG8、SDG9、SDG11、SDG12、SDG13

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2022	Undergraduate	B7203T79	3	B	機械設計	Machine Design	本課程主要介紹機械設計之基礎，這其中包括設計過程、工程力學與材料、在靜態與動態負載下之失效防止，以及主要機械元件的種種特性。透過提供與真實世界中應用相關之廣泛題材的實務練習，修課的學生將在這門課中結合設計與分析，希望在學期結束之後，修課的學生能培養出以下的能力： 1.能體會工程師的本份，並信守工程倫理。 2.能用自己的辭彙定義什麼是設計，甚麼是機械設計。 3.能熟悉材料力學的基礎概念，並能說明材料力學與機械設計的重要關聯。 4.能用自己的話定義失效的基本意義，包括屬於靜態之破斷與屬於動態之疲勞。	This course introduces the basics of mechanical design, including design processes, engineering mechanics and materials, failure prediction and prevention under static and dynamic loads, and various characteristics of major mechanical components such as shaft, beams, etc.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG7、SDG9、SDG12
2022	Undergraduate	B720315G	3	F	實務專題研究	Case Study	訓練大三學生蒐集資料、團隊合作或獨立進行研究及整理研究成果發表報告之能力。	Training juniors to search papers, to study individually, and to write appropriate technical report.	2	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG8、SDG9
2022	Undergraduate	B7201L6L	1	A	普通化學(一)	General Chemistry(I)	本課程強調化學領域的基礎理論和定義，配合教與學合一的理念，共同體認以化學知識闡述生命科學的邏輯概念，並建立學生研讀科技英語的能力。詳參：www.chem.ntou.edu.tw	This course emphasises the fundamental theories and definitions in the field of chemistry, together with the concept of teaching-learning integration, to recognise the logical concepts of life sciences in the context of chemical knowledge, and to build students' competence in the study of technical English. For details, please refer to: www.chem.ntou.edu.tw	2	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4
2022	Undergraduate	B7201NNX	1	B	服務學習_愛校服務(I)	Service-Learning Program-Campus Service (I)	養成學生負責、自律、勤勞、服務與互助合作之美德。	Students will develop the virtues of responsibility, self-discipline, hard work, service and mutual cooperation.	0	Service Learning Program	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG8、SDG12
2022	Undergraduate	B7202P48	2	A	電路學	Electric Circuits	使學生理解基本電路理論與解析方法，具備紮實之工程實務基礎，並可應用於電子學、自動控制、機電整合等相關課程。	Enable students to understand the basic principles of circuit analysis for future application on Electronics, Automatic Control, and Mechatronics.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4
2022	Undergraduate	B7203R9E	3	A	數位邏輯	Logic Design	使修課者熟悉二位元邏輯系統之基本原理及設計方法，並具有將邏輯設計以軟體分析模擬及以硬體實現之能力	Familiarise the students with the basic principles and design methods of two-dimensional logic system, and have the ability to analyse and simulate the logic design in software and implement it in hardware.	3	Elective Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG8、SDG9、SDG11
2022	Undergraduate	B7203T83	3	B	機械製造	Manufacture Process	讓學生諳習材料製造程序之基本知識，涵蓋製程導論、鑄造、金屬成形、機械加工、結合及製造系統設計，養成製造工程師所需之基本知識及其應用技術。使學生步入就業市場，能將習得之製造程序相關知識，應用於產品加工與成形等方面的能力。	The objective of this course is to let students learn the basic knowledge on the manufacturing processes, including introduction, castings, metal forming, machining, joining and manufacturing system design, and possess the necessitated engineering knowledge and skills for servinag as a manufacturing engineer. This allow students with abilities for procuct forming and machining in their future career.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG9
2022	Undergraduate	B7202S42	2	B	熱力學(一)	Thermodynamics (I)	介紹熱力系統之性質與平衡狀態,並針對不同熱力系統介紹其能量轉換之工程應用	To introduce the properties and equilibrium states of a system, and the transformation of energy among different forms and energineering applications for different types of system.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG7、SDG9、SDG11、SDG13
2022	Undergraduate	B7204J2B	4	A	產品設計與開發	Product Design and Development	從業界專案發展的流程介紹產品機構開發與設計所運用的相關知識	Introduce the knowledge of product organisation development and design from the industry's project development process.	3	Elective Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9、SDG12
2022	Undergraduate	B7202070	2	B	工程材料學	Engineering Materials	本課程主要教導學生認識結構材料之基本組成，基本物理性質及機械性質。修課的學生將瞭解到如何使用材料應用於固體力學、製造程序與熱機結構。 1. 使學生瞭解，沒有材料的進步開發就無法製造出先進的結構設備。 2. 不同原子的電子型態，為何會影響到材料的機械性質、物理性質及化學性質。 3. 結晶結構與塑性變形滑移系統之關係。 4. 滑移系統、晶格缺陷與材料強度之相互關係。 5. 機械零件表面硬化或半導體原件摻雜元素倚賴擴散原理。 6. 金屬塑性加工變形及破裂與應力關係。	All engineering students must have the basic knowledge of the structure, properties, processing, and performance of various classes of engineering materials.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B7203T74	3	B	機動學	Mechanism	機構是所有機器組成的基本元素，認識各種傳動機構的類型以及其應用場合，並學習瞭解機構分析的方法是機器設計的基礎。本課程為機械設計領域的入門課程，是將大一、大二所學習的基礎學科（如靜力學、動力學、微積分、工數等）著重應用於機構運動特性之認識與運用各種方法進行機構之運動分析。具體教學主題目標包括： (1)瞭解機構之組成並分析其運動特性； (2)針對連桿機構進行位置、速度、加速度等運動分析； (3)學習凸輪機構之運動規劃及輪廓設計； (4)學習齒輪機構之嚙合原理以及齒輪系之運動分析； (5)奠定機構設計所需之理論基礎。	Mechanisms are the basic elements of all machines. Understanding the types of transmission mechanisms and their applications, as well as learning to understand the methods of mechanism analysis, is the foundation of machine design. This course is an introduction to the field of mechanical design, and focuses on applying the basic subjects learned in freshman and sophomore years (such as statics, dynamics, calculus, and engineering mathematics) to the understanding of the characteristics of mechanism motion and the application of various methods to the analysis of mechanism motion. Specific teaching objectives include: (1) To understand the composition of a mechanism and analyse its motion characteristics; (2) To analyse the position, velocity and acceleration of a link mechanism; (3) To learn the motion planning and contour design of cam mechanism; (4) To learn the principle of mesh and motion analysis of gearing mechanism; (5) To lay the theoretical foundation for mechanism design.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9
2022	Undergraduate	B72041CF	4	C	專題研究與實作	Research and Practice in Special Topics	針對特定之專題，培養學生具備下列能力：蒐集必要研究資料、進行實際設計、組裝與操作，或使用電腦軟體進行模擬分析，並整理研究成果發表報告。	For specific topics, students will develop the ability to collect necessary research data, carry out practical design, assembly and operation, or use computer software to conduct simulation and analysis, and collate and publish reports on their research results.	3	Elective Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9
2022	Undergraduate	B7203152	3	A	內燃機學	Internal Combustion Engine	本課程介紹內燃機之分類、引擎參數、操作特性、以及內燃機之性能。	This course introduces internal combustion engines in the aspects of engine classification, engine parameters, operating characteristics, and engine performance.	3	Elective Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG3、SDG4、SDG7、SDG8、SDG11、SDG12
2022	Undergraduate	B7202070	2	A	工程材料學	Engineering Materials	本課程主要教導學生認識，結構材料之基本組成，基本物理性質及機械性質。修課的學生將瞭解到如何使用材料應用於固體力學,製造程序與熱機結構。 1. 使學生瞭解，沒有材料的進步開發就無法製造出先進的結構設備 2. 不同原子的電子型態，為何會影響到材料的機械性質、物理性質及化學性質 3. 結晶結構與塑性變形滑動系統之關係 4. 滑動系統、晶格缺陷與材料強度之相互關係 5. 機械零件表面硬化或半導體原件摻雜元素倚賴擴散原理 6. 金屬塑性加工變形及破裂與應力關係	All engineering students must have the basic knowledge of the structure, properties, processing, and performance of various classes of engineering materials.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG9
2022	Undergraduate	B7202P48	2	B	電路學	Electric Circuits	使學生理解基本電路理論與解析方法，具備紮實之工程實務基礎，並可應用於電子學、自動控制、機電整合等相關課程。	Enable students to understand the basic principles of circuit analysis for future application on Electronics, Automatic Control, and Mechatronics.	3	Required Course	機械與機電工程學系 Department of Mechanical and Mechatronic Engineering	SDG4、SDG8、SDG9、SDG11
2022	PH.D Program	D7212I38	2	A	專題討論	Seminar	藉由參加學術演講及討論，提升學生論文發表能力，掌握研究進度及增進學術及技能交流。	Through participation in lectures and discussions, students will be able to enhance their ability to publish papers, keep abreast of research progress, and increase academic and skill exchange.	1	Required Course	機械與機電工程學系博士班 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9
2022	Master Program	M7201S52	1	A	熱對流	Heat Convection	本課程目的在促進同學對熱對流現象之了解，並訓練同學解決熱對流問題之能力。吾人希望經由修習此門課程，同學們可發展出以下能力： 1.說出何謂熱對流，並可說明強制對流、自然對流及混合對流之差異。 2.能夠以簡單詞句說明邊界層物理現象，並知道如何使用適當方法解析邊界層熱對流問題。 3.能夠分析高速流熱對流問題。 4.能夠說明何謂完全發展流，並有能力對管內強制對流問題求解。 5.有能力分析較簡化之自然對流問題。 6.能夠以經驗公式分析混合對流問題。 7.能夠使用簡化之紊流模式分析紊流熱對流問題。 8.能以口頭報告方式(書面補充)闡述	The objective of this course is to enable the students to understand the physics and applications of heat convection. The students are expected to develop the following capabilities: 1. Being able to describe what is heat convection and to tell the difference between forced, natural and mixed convection. 2. Being able to explain the physical meaning of boundary layer and to solve the associated problems by using proper methods. 3. Being able to analyze heat convection for high-speed flows. 4. Being ab	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M7201T2M	1	A	銲接結構失效分析	Failure Analysis of Welded Structures	無	The interrelationship of design, fabrication, nondestructive evaluation, fracture mechanics, and reliability concepts in establishing the overall fitness-for-purpose of welded structures and equipment.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG9
2022	Master Program	M720108Q	1	A	工程磨潤學	Engineering Tribology	從機械設計與製造的觀點介紹磨潤工程的基本概念	A fundamental introduction of Tribology from the view points od mechanical design and manufacture	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG9、SDG12
2022	Master Program	M7201204	1	A	精密製造分析	The Analysis of Precision Manufacturing Processes	本課程旨在介紹達成精密機械製造之各項組成要素，並導入相關數學理論方法以進行各項分析工作，進而達到結合理論與實務以進行精密製造程序之整合性規劃分析。本課程主要的教學目標在於： 1. 使學生瞭解加工機床之誤差建模方法與校驗技術。 2. 使學生瞭解切削加工程序之理論分析方法。 3. 使學生瞭解加工精度之檢測技術與分析方法。 4. 使學生具備結合理論與實務以進行精密製造程序之整合性規劃分析的基礎能力。	This course is designed to introduce the components of precision mechanical manufacturing, and to introduce mathematical theories to analyse them in order to combine theory and practice in the integrated planning and analysis of precision manufacturing processes. The main objectives of this course are to: 1. to enable students to understand the error modelling methods and verification techniques of machining machines. 2. to enable students to understand the error modelling methods and verification techniques of cutting machines. 2. to enable students to understand the theoretical analysis of cutting procedures. 3. to enable students to understand the theoretical analysis of machining precision. 3. to enable students to understand the inspection techniques and analysis methods of machining accuracy. 4. to equip students with the ability to analyse and analyse the machining accuracy of machining processes. 4. to equip students with the basic ability to combine theory and practice to carry out integrated planning and analysis of precision manufacturing processes.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG8、SDG9
2022	Master Program	M7221I38	1	D	專題討論	Seminar	藉由參加學術演講及討論，提升學生論文發表能力，掌握研究進度及增進學術及技能交流。	Through participation in lectures and discussions, students will be able to enhance their ability to publish papers, keep abreast of research progress, and increase academic and skill exchange.	1	Required Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG7、SDG9、SDG10、SDG12、SDG17
2022	Master Program	M720124I	1	A	光電機械系統整合	Opto-Mechatronics System Integration	教授碩博士研究生關於光學、電控與精密機械領域的知識理論及其整合應用	Teaching master and doctoral students the theory of knowledge and its integration in the fields of optics, electro-controls and precision mechanics.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4
2022	Master Program	M720169P	1	A	材料機械行為(一)	Mechanical Behavior of Materials (I)	本課程主題內容非常廣泛，以原子觀點為出發點，瞭解固體變形機制，及強度韌性強化原理，連結到巨觀的結構材料機械行為表現。基本彈性力學，晶格缺陷，微觀力學，破裂機制等，為核心教學內容。	The subject of this course is very broad. The lecture teaches from the atomic point of view and extends to understanding the mechanism of solid deformation, and the principle of strength and toughness enhancement. Finally, the above fundamentals link to the mechanical behavior of structural materials in macroscopic view. The core teaching content includes the basic elastic mechanics, lattice defects, micromechanics, fracture mechanism, etc..	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG9
2022	Master Program	M7201P8H	1	A	實驗設計與品質工程	Experimental Design and Quality Engineering	介紹實驗設計與田口方法等具有強健參數設計概念的主要內容，並說明它們與品質工程各種方法的關係。課程之目標，在培養學生於面臨各種工程問題而需規劃實驗時所需的創新思維與學理基礎。	The course introduces the main elements of experimental design and Taguchi's methodology that have strong parametric design concepts, and explains how they relate to the various methods of quality engineering. The objective of the programme is to provide students with a foundation in the creative thinking and reasoning required to plan experiments for a variety of engineering problems.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9、SDG12
2022	Master Program	M7201S38	1	A	模具專論	Special Topics on Die/Mold	模具設計與製作良窳對零部件的品質與產出率之影響甚大，透過系統化規劃之模具設計與製作議題，養成並深化學生資料蒐集、分析、整理與撰寫技術報告等核心能力，同時針對模具相關議題的延伸討論，啟發學生歸納與演繹的組織能力，使學生兼備學理與實務之研究開發能力。	Qualified mold design and production have a great impact on the quality and yield of parts. Through systematic planning of mold design and production issues, students can develop and deepen their core capabilities in data collection, analysis, sorting, and writing technical reports. The extended discussion of mold-related topics inspires students'' organizational skills for induction and deduction, and enables students to have both academic theory and practical research and development capabilities.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG9

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M72011CG	1	A	自動化檢測	Automated Inspection	本課程旨在介紹達成自動化檢測之各項組成要素，並導入相關數學理論方法與實務應用技術，進而使學生具備結合理論與實務以進行自動化檢測系統設備之整合性規劃設計的基礎能力。本課程以「自動化光學檢測」為主軸進行教學，俾使學生透過各項相關的練習與實作而對於自動化檢測產生系統性的認知與實務性的應用能力。	This course is designed to introduce the components of automated inspection, and introduce the related mathematical theories and practical application techniques, so as to equip students with the basic ability of combining theory and practice to carry out the integrated planning and design of automated inspection systems and equipments. This course focuses on "Automated Optical Inspection" to enable students to develop a systematic understanding and practical application of automated inspection through various exercises and practical work.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9
2022	Master Program	M7201F71	1	A	高等流體力學	Advanced Fluid Mechanics	對一般流體力學有更深入認識.	Advanced Study on General Fluid Mechanics.	3	Elective Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4、SDG6、SDG7、SDG8、SDG9、SDG10、SDG11、SDG13、SDG14、SDG15
2022	Master Program	M7211I38	1	D	專題討論	Seminar	藉由參加學術演講及討論，提升學生論文發表能力，掌握研究進度及增進學術及技能交流。	Through participation in lectures and discussions, students will be able to enhance their ability to publish papers, keep abreast of research progress, and increase academic and skill exchange.	1	Required Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9、SDG12、SDG17
2022	Master Program	M7212I38	2	D	專題討論	Seminar	藉由參加學術演講及討論，提升學生論文發表能力，掌握研究進度及增進學術及技能交流。	To enhance students' ability to publish papers, to keep abreast of research progress and to improve academic and skills exchange through participation in academic presentations and discussions.	1	Required Course	機械與機電工程學系碩士班 Department of Mechanical and Mechatronic Engineering	SDG4、SDG9、SDG12、SDG17
2022	Master Program	M9D020YO	2	A	專題討論：語言學習策略	Topics in Language Learning Strategies	請參考英文版。	This course introduces students to research on language learning strategies. We will discuss current trends and controversial issues most important to strategies for learning a second/foreign (L2) language. Both theoretical issues (e.g., definition, classification, and theoretical underpinnings) and pedagogical issues (e.g., teachability of strategies and the relationship of strategies to the four skills and individual-difference variables) will be discussed. Classroom discussions and presentations will focus on strategy research in the mid-70s (e.g., Rubin, 1975), the mid-80s (e.g., O'Malley, Chamot, Stewner-Manzanares, Küpper, & Russo, 1985), the 1990s (e.g., MacIntyre & Noels, 1996), and the new millennium (e.g., Ardasheva & Tretter, 2013; Griffiths, 2015; Oxford, 2017; Thomas & Rose, 2018). How the concept of L2 strategies is compatible with the concept of self-regulation will be highlighted throughout this course. Suggested papers for classroom discussions and presentations are li	3	Elective Course	應用英語研究所碩士班 Institute of Applied English	SDG1、SDG4、SDG10、SDG17
2022	Master Program	M9D010RZ	1	A	專題討論：語言學習焦慮	Topics in Language Learning Anxiety	請參考英文版。	This course introduces students to research on language learning anxiety. We will identify and discuss current trends and controversial issues most important to anxiety or apprehension arising from learning or using a second/foreign language (L2). Our focus will be on understanding the relationship between anxiety and L2 achievement. An additional focus will be on exploring the potential role(s) of culture in moderating this relationship. To this end, we will discuss scholarly works dealing specifically with this relationship. Suggested papers for classroom discussions and presentations will be listed on the instructor's MOODLE (http://140.121.179.6/moodle). Classroom interactions and discussions via the MOODLE will be much emphasized throughout this course. Students completing this course are expected to gain a basic understanding of research on L2 anxiety. This understanding will benefit them should they wish to continue further studies.	3	Elective Course	應用英語研究所碩士班 Institute of Applied English	SDG1、SDG4、SDG5、SDG10

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Master Program	M9D011D8	1	A	社會科學質化研究法	Qualitative Research Methods for Social Science	This course will familiarize students with: a. Definitions and theoretical assumptions of qualitative research b. Procedure for designing qualitative research projects c. Steps in collecting and analyzing qualitative data d. Abilities to discuss ethical implications and critique articles using qualitative research e. Skills of writing qualitative research	This course will familiarize students with: a. Definitions and theoretical assumptions of qualitative research b. Procedure for designing qualitative research projects c. Steps in collecting and analyzing qualitative data d. Abilities to discuss ethical implications and critique articles using qualitative research e. Skills of writing qualitative research	3	Elective Course	應用英語研究所碩士班 Institute of Applied English	SDG4、SDG10
2022	Master Program	M3502U9E	2	A	環境與資源管理政策專題	Topics in Environmental and Resource Management Policy	研究生碩士論文討論與個案研究 最新環境與能源資源國際與我國趨勢與政策探討 隨時因應防疫準則調整	Postgraduate Master's Thesis Discussions and Case Studies Recent Trends and Policies on Environment and Energy Resources in China and the World. Adjustment of Epidemiological Criteria	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG1、SDG3、SDG4、SDG6、SDG8、SDG9、SDG10、SDG11、SDG12、SDG13、SDG16
2022	Master Program	M35012CL	1	A	實證個體經濟分析	Applied Microeconomic Analysis	本課程的目的為討論消費者選擇及廠商的生產績效分析。討論衡量消費偏好及決策者(decision maker) 將投入(input)轉換為產出(output) 之績效(performance)。除了回顧個體經濟理論外，將討論四種目前常見的需求體系及生產函數及指標的方法。	The purpose of the course is to introduce to students the research process for conducting empirical studies on special topics in economics.	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG1、SDG2、SDG3、SDG9、SDG12、SDG14
2022	Master Program	M3501U8D	1	A	環境經濟與資源管理學	Environmental Economics and Resource Management	請見TRONCLASS最新版大綱 環境與資源經濟是目前國際極受重視的領域 本課程希望帶給同學環境經濟與資源經濟的經濟理論基礎以及世界最新的相關趨勢 在能源(Energy)環境(Environment)與經濟(Economics)3E平衡觀點中學習經濟理論與模型在最新領域的應用 本課程大綱如下：介紹環境能源與經濟相關議題，財產權與外部性，應用於環境政策與制度之設計與執行，討論環境政策與制度的經濟分析，以及總體經濟發展政策與各部門發展政策對環境品質的影響。所討論的環境課題包括各種汙染、全球變遷以及永續發展等課題。包括世界最新的環境政策議題。國內外重要案例討論。介紹藻類biofuel、海洋機械能與海洋生質能等新能源議題。 隨時依照防疫準則調整，例如遠距教學與遠距演講	Please see the latest version of the TRONCLASS programme. Environmental and Resource Economics is an area of great international importance at present. This course aims to provide students with the foundations of the economic theories of environmental and resource economics as well as the latest trends in the world. Students will learn about the application of economic theories and models in the latest fields in the context of a balanced view of the 3Es of Energy, Environment and Economics. The syllabus for this course is as follows: Introduction to environmental energy and economics related topics, property rights and externalities, as applied to the design and implementation of environmental policies and institutions, discussion of the economic analysis of environmental policies and institutions, and the impacts of general economic development policies and development policies of various sectors on the quality of the environment. Environmental issues discussed include pollution of all kinds, global change, and sustainable development. Includes the latest environmental policy issues in the world. Discussion of important domestic and international cases. Introduces new energy issues such as algae biofuel, marine mechanical energy and marine biomass energy. Adjusted to meet the criteria of epidemic prevention, e.g. Distance Learning and Distance Lecturing.	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG1、SDG3、SDG4、SDG6、SDG7、SDG8、SDG9、SDG11、SDG12、SDG13、SDG14、SDG17
2022	Master Program	M3501B40	1	A	時間數列分析	Time Series Analysis	本課程是研究所計量經濟學的進階課程，所要學習的是社會科學實證研究所必需的時間序列分析方法。內容以單變數, 多變數時間序列模型為主, 並包含恆定與非恆定資料之處理及各模型在應用到經濟資料時所可能遇到的各種問題。本課程之目的為實證計量分析。	The aim of this course is to provide participants with the knowledge necessary to handle modern time series techniques. Both univariate and multivariate models are considered with and without the stationary assumption. The estimators are found, their asymptotic distributions derived, and relevant regularity conditions analyzed. On this course we always attempt to provide simple examples that illustrate how the theoretical results are used and applied in practice.	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG1、SDG3、SDG9、SDG12
2022	Master Program	M35010Y3	1	A	能源經濟與永續發展	Energy Economics and Sustainable Development	New 20220620 for 16+2 weeks: 因應本學期改為16週上課，本課程讓同學們了解能源與電力的經濟面與環境面的影響，以及與永續發展的關係。經濟面如大家所知，包括能源需求面、能源供給面、能源價格與效率、電力市場、環境與能源相關國際與國內政策、氣候變遷與現在發展、碳稅與能源稅等環境稅制與影響，最後是各種能源尤其是再生能源與新能源之介紹。可以提供同學對能源與環境與永續發展的理論與概念，未來可以應用在論文中。課程內容預計為環境經濟與資源管理相互搭配，之後建議繼續修習環境經濟與資源管理課程為佳。	The aim of this course is to give students an overview of the demand for and supply of energy, price efficiency, sustainable development and environmental and policy issues. The topics covered may change slightly, due to time constraints and interest, but typical topics to be covered include: policy experience in energy and climate policies, energy demand and energy efficiency issues, power market systems.	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG1、SDG3、SDG4、SDG7、SDG9、SDG11、SDG12、SDG13、SDG14、SDG15

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2022	Master Program	M35024LO	2	A	國際漁產品市場分析和貿易實務	world seafood market analysis and international trade	1.瞭解國際貿易理論 2.分析國際漁業產銷、漁產品市場結構和貿易狀況 3.學習國際貿易基本的實務方法 4.透過全英語教學，提升學生英語的興趣和能力	1.To provide students with important concepts of international trade 2.To analyze world fisheries situation and world market structure 3.To learn the procedures and basic practices of international trade 4.Improvement of English proficiency through whole English teaching	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG17
2022	Master Program	M3501Q96	1	A	管理數學	Management Mathematics	New 20220620 for 16+2 weeks： 管理數學為研讀各種進階經濟學以及計量經濟之數學基礎作為本所多元入學同學各種背景 之經濟學數理基礎 內容為數理經濟學、線性規劃與管理數學主題 EX:指派問題 存貨問題等等 111學年度學校規定16+2週，依此修改各週進度，補充週或上傳未上到課之影片檔。 中文授課。	To provide a comprehensive presentation of the basic mathematical methods which have become indispensable for a proper understanding of the current economic, financial and management literature	3	Elective Course	應用經濟研究所碩士班 Institute of Applied Economics	SDG3、SDG4、SDG5、SDG8、SDG9、SDG10
2022	Undergraduate	B3102R58	2	A	遙感探測學	Remote Sensing	習得遙感探測基本原理,分析分法及其在海洋與漁業之應用	To learn the fundamentals for remote sensing, radiative transfer theory and its application on commercial fishery and oceanography.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG13、SDG14
2022	Undergraduate	B31023RL	2	A	水產經營學導論	Introduction to fisheries administration and management	此課程使學生瞭解支援水產經營之相關制度及與漁會間的關係，並學習為改善漁業經營新共同組織所做的對策。透過以上的學習內容，培養學生思考並尋找出如何改善水產業經營之對策為目的。	This course enables students to learn about the current system of fishery business administration and its relationship with Fishermen""s Association, and potential countermeasures to improve the new organization of fishery management. Through the above learning content, students are encouraged to think critically and identify ways to improve the countermeasures for fishery business administration.	3	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG1、SDG8、SDG11、SDG12
2022	Undergraduate	B3103Q31	3	A	漁場學	Fisheries Oceanography	1.讓學生充分了解漁場的特性與形成機制 2.引導學生水產資源保育及永續利用之理念	1. To enable students to fully understand the characteristics and formation mechanism of fisheries. 2. To introduce students to the concepts of aquatic resources conservation and sustainable use.	2	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG1、SDG4、SDG12、SDG14
2022	Undergraduate	B3102R5F	2	A	遙感探測學實驗	Remote Sensing Practice	透過上機實習操作掌握不同衛星海洋遙測資料分析技巧,習得掌握海洋環境(鋒面,湧昇等)特徵之能力	remote sensing practice is the transformation and exploitation of 2d data - that is, of images processes in the ocean. This course teach the theory of image processing and the application of image processing techniques via many examples on ocean features. Handling multispectral data, transformations and filtering of images, classification, texture analysis ... all the key themes in image processing and its application on commercial fishery and oceanography are also introduced.	1	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG13、SDG14
2022	Undergraduate	B3103E1I	3	A	浮魚漁業	Pelagic Fisheries	本課程以各別漁業介紹方式，使學生能了解台灣捕撈中表層魚種之浮魚漁業(包含遠洋及沿近海)之現況、問題與後續管理政策等，並透過文獻探討與報告方式，訓練及加強學生統整資料及口說彙報能力。	This course tries to introduce each pelagic fishery in Taiwan to enable students to understand the current status, surrounding problems, and fisheries management. Through the above learning content, literature discussion, and oral reporting to training and strengthen students" ability to organize reports.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG14
2022	Undergraduate	B310183N	1	A	物理學	General Physics	除使學生建立物理的基本觀念，並了解其發展外，更能進一步對於相關的知識能靈活運用。	In addition to establishing the basic concepts of physics and understanding its development, students will be able to further apply their knowledge in a flexible manner.	3	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG7
2022	Undergraduate	B3103U9L	3	A	環境化學	Environmental Chemistry	環境的污染一直以來都伴隨著人類的發展而存在，並且隨著人類活動及科技的發展而日益嚴重，因此研究環境化學是保護自然的必要選擇。本課程著重在海洋環境污染物質的介紹、來源、轉換機制及對海洋生物的影響。	The environmental pollution was more violent with human’s activities. That’s why we have to study the environmental chemistry. This course focus at the pollutant compounds, source, reactions and their effects to marine life.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG6、SDG13、SDG14、SDG17
2022	Undergraduate	B310233B	2	A	水產養殖學概論	Introduction to Aquaculture	藉由水產養殖發展的歷史與產業實際動態走向輔以專業之觀點俾使學者能於此課程獲得水產養殖全般概念和基本操作理論	Through the history of aquaculture development and the actual dynamics of the industry, supplemented by professional viewpoints, students will be able to acquire general concepts and basic operational theories of aquaculture in this programme.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG2、SDG14、SDG15
2022	Undergraduate	B3102C96	2	A	海洋學	Oceanography	教導學生應用各種科學知識來探究海洋中的物理、化學、生物、地質及其他過程和現象的發生、發展、變化規律及其開發利用等，是本課程主要之教學目標。	This course teaches students to apply a variety of scientific knowledge to explore the occurrence, development, change and utilization of physical, chemical, biological, geological and other processes and phenomena in the ocean, as well as their development and utilization. It is the teaching goal of this course.	2	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG13、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B3101Q70	1	A	漁業概論	Introduction to Fishery Science	使學生明瞭二十一世紀的漁業科家所扮演的角色	This course aims to establish that students with an understanding of the role of fisheries scientists in the 21st century.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG11、SDG13、SDG14
2022	Undergraduate	B3102606	2	A	有機化學	Organic Chemistry	以電子移動主導原理(electron movement)增進學生對有機化學理解，並強調以有機化學基礎之觀點角度，增加對生物化學以及與環境相關之有機化學的認識。	This course begins from the principle of electron movement and progressing to complex organic compounds. However, this course is also emphasis on explaining the fundamental mechanistic similarities of reactions. After the students take this elective course should increasing their knowledge of organic chemistry.	3	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG2、SDG6、SDG10
2022	Undergraduate	B3102ZYB	2	A	漁業資訊科技導論	Introduction to the Technology of Fishery Information	本課程將針對各項科技之特性，介紹近年來應用在漁業產業資訊有關科技之原理、發展及其應用，授予學生各項漁業資訊科技之運用原理與應用領域，並透過短講、影片實作、實地參訪與體驗操作(含運用海洋研究船進行海洋構造及漁業生產實態之演練)，增進學生對各項科技應用於漁業	To learn the science fundamentals, theory and its application which is major in fishery industry and other aids.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG8、SDG9、SDG14
2022	Undergraduate	B3103Q5F	3	A	漁業法規	Fisheries Law and Regulation	漁業法規是漁業管理之重要手段，亦為海域法規中重要的一部分，藉由漁業法規是達成漁業管理的目的，本課程係從漁業立場來闡釋漁業法規，讓學生瞭解國內外漁業法規精神與目的，及國內外漁業規之發展趨勢。	Fisheries regulations are an important means of fisheries management and an important part of maritime regulations, through which the purpose of fisheries management is achieved. This course explains fisheries regulations from the standpoint of the fisheries industry, so that students can understand the spirit and purpose of domestic and foreign fisheries regulations, as well as the development trend of domestic and foreign fisheries regulations.	2	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG8、SDG14
2022	Undergraduate	B310183P	1	A	物理學實驗	General Physics Lab.	配合普通物理教學, 使學生從實驗中深刻體會課堂上所講授物理原理, 並培養學生動手實做的能力。	In conjunction with the teaching of General Physics, this programme enables students to gain a deeper understanding of the principles of physics taught in the classroom through experiments, and to develop their hands-on skills.	1	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG7、SDG9、SDG14
2022	Undergraduate	B3103L09	3	A	魚類生態學	Fish Ecology	本課程旨在探討魚類與其海洋環境間之相互關聯性。透過上述之原理與基礎知識，將有助於應用在未來之魚類養殖、漁業資源及海洋環境保護、漁業生產等科學管理中。	This course focuses on the basic knowledge of the relationship between the fish and the environment. Based on the knowledge, it will be helpful to apply the scientific management of fish farming, fishery resources, and marine environmental protection, fishery production in the future.	3	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG14
2022	Undergraduate	B310447Z	4	A	生態毒理學	Ecotoxicology	生態環境的毒性物質隨著人類的發展與日遽增，因此有必要針對海洋生態環境中的毒性物質加以瞭解，本課程講授海洋環境中所發現的毒性物質及其毒性物質對海洋生物以及食物鏈的影響。	Environmental toxics are increased with the development of industry and business. It is very important that to realize the toxics in marine ecosystem. This course introduces the toxics by human and nature. And those toxics affect the marine life and food chain.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG2、SDG4、SDG6、SDG11、SDG14
2022	Undergraduate	B31022DO	2	A	環境生物學(一)	Environmental Biology 1	環境生物學的教學目標是要學生(1)學習大自然如何運作；(2)了解我們如何和環境互動(人類如何影響地球的生命支持系統；(3)尋求方法來處理環境問題，以及更永續的生活方式。	The goals of environmental biology are: (1) to learn how nature works (2) to understand how we interact with the environment (3) to find ways to deal with environmental problems and to live more sustainably.	2	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG11、SDG13、SDG17
2022	Undergraduate	B3102640	2	A	行政法概論	Introduction to Administrative Laws	行政法是有關國家行政權運作的國內公法總稱，行政法涉及行政機關執行職務時所適用之各項法律，透過本課程的學習，讓學生瞭解國家行政機關在其依法行使職權過程中所發生的各種社會關係的法律規範，以及人民與行政機關相互間權利義務關係。	Administrative law is the general name for domestic public law relating to the operation of the state's administrative power. Administrative law involves the laws applicable to the executive authorities in the performance of their duties. Through the study of this course, students will be able to understand the legal norms of various social relationships that occur in the process of the state's administrative authorities in the exercise of their duties in accordance with the law, as well as the relationship of the people to the executive authorities and the rights and obligations of the people to each other.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG10、SDG16
2022	Undergraduate	B310345F	3	A	生物海洋學	Biological Oceanography	本課程之目的在引導學生瞭解浩瀚大洋中海洋生物環境之區分及各分區之生物、非生物環境因子之特性。從而透過課題討論，探討各種生物、非生物環境因子在生物生產過程中所擔負之角色，以及生物之時空間、地理分布與環境因子變動之相關性。	The purpose of this course is to guide students to understand the differentiation of the marine environment in the vast ocean and the characteristics of biotic and abiotic environmental factors in each region. Through discussion, students will explore the roles of various biotic and abiotic environmental factors in the production process of organisms, as well as the correlation between the spatial, temporal and geographical distribution of organisms and the changes in environmental factors.	2	Required Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG13、SDG14

Year	Program	Course_no	Grase	Class	Chinese Course Title	English Course Title	Chinese Objecttive	English Objective	Credit	Course Character	Department/Institute	Corresponding to SDGs projects
2022	Undergraduate	B31042JY	4	A	海巡法規	Coast Guard Laws and Regulations	海巡署為我國之海域執法專責機關，海巡人員則為主要海域執法人員，少數不法漁民利用漁船作為犯罪工具，海巡工作與非法漁業行為密不可分，而非法漁業行為不僅限於違反漁業法規，尚包含其他相關法規，因此，本課程在於使學生瞭解海巡人員之執法依據，走私、非法入出國之查緝要件與程序，海巡基礎法制，國內海洋法與國際海洋之接軌狀況，海洋污染之違法蒐證、取締與移送之規範。	The Marine Patrol Agency is the specialised agency for law enforcement in China's maritime areas, and the Marine Patrol Officers are the main law enforcement officers in the maritime areas. A small number of unscrupulous fishermen use fishing vessels as a tool for committing crimes, so the work of the Marine Patrol is inextricably linked to illegal fishing, which is not only limited to violating the Fisheries Law and Regulations, but also includes other related laws and regulations, therefore, this course aims to enable the students to understand the basis for the enforcement of law enforcement by the marine patrol officers, the investigation and detection of smuggling and illegal entry into and exit from the country, the basic legal system for the Marine Patrol, the convergence of the law of the sea on the domestic level with that of the international oceans and seas, and the norms for the collection of evidence of violations of the law on marine pollution, the collection of evidence, the enforcement of lawfulness, and the referral of the lawfulness of the maritime pollution.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG8、SDG16
2022	Undergraduate	B3104ZF3	4	A	全球環境變遷	Global Environment Change	全球環境變遷是人類生存發展要面對的險惡問題，進行與發展中的國際及地區的行動將深深影響每一個人的生活與生涯，作為一個現代人必須具備正確的全球變遷基本學識，對主要議題的內涵具有辨識力與敘事力。本課程系統化介紹全球環境變遷議題，透過議題導向的課程設計，介紹全球變遷主要議題的科學基礎及其所牽涉之人文、社會、經濟、政治等層面的問題，並特別對台灣本地的全球變遷衝擊、調適與因應進行探討，培養學生對本地環境變遷議題的敘事能力。	Global environmental change is a perilous issue for human survival and development, and the international and regional actions in progress and development will deeply affect everyone's life and career. As a modern human being, it is necessary to be equipped with a correct basic knowledge of global change, and to have the ability to identify and narrate the connotation of the main issues. This course systematically introduces global environmental change issues through an issue-oriented curriculum design, introduces the scientific basis of global change issues and the humanities, social, economic, and political issues involved, and specifically explores the impact, adaptation, and response to global change in Taiwan to cultivate students' narrative ability on local environmental change issues.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG13、SDG14
2022	Undergraduate	B3102191	2	A	天文航海	Celestial Navigation	使學生了解 1. 介紹航海天文及天文行海之應用 2. 現今天文航海之科技新知 3. 讓學生洞悉利用日、月、星晨等天體之觀測以判定船位之基本應用 4. 滿足參與漁政系統或海巡系統航海人員考試之教學 5. 航行應用	1. Introduce the application of astro-navigation and astro-navigation 2. New knowledge of science and technology in today''s astro-navigation 3. Gain insight into the basic application of using observations of the sun, moon, stars and other celestial bodies to determine the ship''s position 4. Satisfied to participate in the teaching of the fishery administration system or maritime patrol system nautical personnel examination 5. Navigation applications	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG11、SDG14
2022	Undergraduate	B3102Q28	2	A	漁船論	Principles of Fishing Boat	漁船是海洋漁業最重要的設施，如果缺乏漁船，幾乎無法從事海上捕撈活動，因此，漁業從業人員必須瞭解漁船構造設備、操船、維護保養…等相關知識與技能，及如何在海上航行期間，維持漁船的安全，本課程將介紹漁船在靜態時的基本構造、船上儀器、船位系統…等船務設備，及動態時的基本操船、海上遇難之緊急處置，讓學生瞭解船舶上工作所需的技藝。	Fishing vessels are the most important facilities for the marine fisheries industry. If there is a lack of fishing vessels, it is almost impossible to engage in marine capture activities. Therefore, fisheries industry personnel must understand the knowledge and skills related to the construction of fishing vessels, ship handling, maintenance, and how to maintain the safety of fishing vessels during the sea voyage. This course introduces the basic construction of fishing vessels in the static state, onboard instrumentation, ship's position system, and other marine equipment, and the basic operation of the vessel in the dynamic state, and the emergency handling in case of marine distress, so as to enable students to understand the skills necessary for working on board the vessel.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG9
2022	Undergraduate	B310487C	4	A	海洋環境管理	Management of Marine Environment	本課程之教學目標是希望藉由過去所習得之專業知識，配合海洋環境監測與影響評估之基礎理論，來瞭解海洋環境保護與管理應有的措施及方法。	The teaching goal of this course is to use the professional knowledge acquired in the past and the basic theory of marine environmental monitoring and impact assessment to understand the measures and methods for marine environmental protection and management.	2	Elective Course	環境生物與漁業科學學系 Department of Environmental Biology and Fisheries Science	SDG4、SDG11、SDG13、SDG14
2022	PH.D Program	D3101S70	1	A	衛星漁業資訊處理及應用	Processing and Fisheries Application of Satellite	衛星數位影像資料分析技巧,及其在海洋與漁業上之實例應用	To learn the advanced techniques for remote sensingand its application on commercial fishery and oceanography.	3	Elective Course	環境生物與漁業科學學系博士班 Department of Environmental Biology and Fisheries Science	SDG4、SDG13、SDG14、SDG17

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2022	PH.D Program	D310125O	1	A	水產海洋學專論	Seminar in Fisheries Oceanography	本課程之特徵在藉海洋生物及非生物環境因素之逐步及綜合解說，配合海洋研究船進行海洋構造及漁業生產實態之演練，使學生體認在浩瀚之海洋中形成漁場之所在及其環境要因，在上課中透過有關課題之設定、建立該課題之資料庫及相關論文之研讀，藉課題解決方法及其邏輯思考模式之訓練，加深學生對海洋漁場學之整體觀念及活用能力，並灌輸其維讀、管理、預測漁場及環境之能力。	This course is characterised by a step-by-step and comprehensive explanation of marine biological and abiotic environmental factors, coupled with the oceanographic research vessel to carry out marine construction and fisheries production exercises, so that students can understand the location of the formation of the fishing grounds in the vastness of the oceans and their environmental factors, through the setting of the topic, the establishment of a database of the topic, and the study of related papers, and through the solution of the problem and the training of the logical mode of thinking, to deepen the student's concept of the overall concepts of the study of the oceanic fisheries and the ability to use it, as well as to instill in him or her the ability to maintain, manage, and forecast the fishing grounds and the environment.	3	Elective Course	環境生物與漁業科學學系博士班 Department of Environmental Biology and Fisheries Science	SDG2、SDG9、SDG13、SDG14
2022	PH.D Program	D3101S70	1	A	衛星漁業資訊處理及應用	Processing and Fisheries Application of Satellite	衛星數位影像資料分析技巧,及其在海洋與漁業上之實例應用	To learn the advanced techniques for remote sensingand its application on commercial fishery and oceanography.	3	Elective Course	環境生物與漁業科學學系博士班 Department of Environmental Biology and Fisheries Science	SDG4、SDG13、SDG14、SDG17
2022	Contiuning Education Master Degree Program	T47028A1	2	A	海洋環境監測與影響評估	Monitoring and Assessment of Marine Environment	本課程之教學目標是希望藉由海洋專業知識，配合海洋環境監測之規劃與運作，利用專業影響評估理論，來掌握海洋污染變化趨勢及保護與管理應有的措施及方法。	The teaching goal of this course is to use marine professional knowledge, combine with the planning and operation of marine environmental monitoring, and use professional impact assessment theory to master the changing trend of marine pollution and the measures and methods for protection and management.	2	Elective Course	環境生物與漁業科學學系碩士在職專班 Department of Environmental Biology and Fisheries Science	SDG4、SDG11、SDG13、SDG14
2022	Contiuning Education Master Degree	T4701C97	1	A	海洋學特論	Advanced Oceanography	深入探究海洋中的物理、化學、生物、地質及其他過程和現象的發生、發展、變化規律及其開發利用等，是本課程主要之教學目標。	The teaching goal of this course is to deeply explore the occurrence, development, change rules and development and utilization of physical, chemical, biological, geological and other processes and phenomena in the ocean.	2	Elective Course	環境生物與漁業科學學系碩士在職專班 Department of Environmental Biology and Fisheries Science	SDG4、SDG11、SDG13、SDG14
2022	Master Program	M31012JZ	1	A	國際關係與國際漁業合作	International Relations and fisheries cooperation	國際關係是指處於世界體系內各個主權國家和其他「實體」（包含國家、國際組織）之間的多層次及多維性關係，包含:政治、軍事、外交、經濟、漁業...等各種層面。在科技發達的今日，漁業活動已不僅侷限於某一國家境內的捕撈行為，經常涉及兩個國家或是多個國家之間的關係，因此本課程目的是要讓學生瞭解國際關係的基本理論，臺灣周邊國家的關係與漁業活動的現況，及臺灣參與國際漁業組織之狀況。	International relations refer to the multi-level and multi-dimensional relationships between sovereign states and other "entities" (including countries and international organisations) in the world system, including: political, military, diplomatic, economic, fisheries...and other levels. In today's technologically advanced world, fishing activities are not only limited to capture fisheries within a particular country, but often involve relationships between two or more countries. Therefore, the purpose of this course is to provide students with an understanding of the basic theories of international relations, the relationship between the countries surrounding Taiwan, the current status of fishing activities, and the status of Taiwan's participation in international fisheries organisations.	2	Elective Course	環境生物與漁業科學學系碩士班 Department of Environmental Biology and Fisheries Science	SDG16、SDG17
2022	Master Program	M310187Z	1	A	海洋環境化學特論	Special Topics in Marine Environmental Chemistry	本課程主要研討海洋環境化學物質分佈及通量，以及海洋基礎生產力與營養鹽變化，使研究所學生更進一步瞭解海洋環境及化學物質。	This course focuses at the distribution and cycle in the marine environmental chemicals and the changes of marine primary production and nutrients. This course will let students understand the marine environment and chemicals.	3	Elective Course	環境生物與漁業科學學系碩士班 Department of Environmental Biology and Fisheries Science	SDG4、SDG6、SDG11、SDG13、SDG14
2022	Master Program	M3101L01	1	A	魚群測定特論	Advanced Detection of Fish School	以尖端漁業科學之技術與資訊，配合學理之研析，來掌握魚群之分佈動態，以做為漁業管理之基礎依據，是本課程主要之教學目標。	The teaching goal of this course is to use the technology and information of advanced fishery science and the research and analysis of the theory to grasp the distribution dynamics of fish stocks as the basis for fishery management.	3	Elective Course	環境生物與漁業科學學系碩士班 Department of Environmental Biology and Fisheries Science	SDG4、SDG12、SDG14
2022	Master Program	M31014O3	1	A	仔稚魚分類及群聚學	Classification and assemblage of larval fish	本課程旨在培養學生對仔稚魚的種類鑑定技能，並透過國內外之期刊文章的選讀，來探討海洋環境與魚類資源變動或組成之影響及其關聯性。	This course focuses on experimental and skills of larvae identify. The morphology method is the important lecture that will be introduced clearly. Expect students to understand the essential knowledge of the field and learn how to investigate the relationship between hydrography conditions and fish resources.	3	Elective Course	環境生物與漁業科學學系碩士班 Department of Environmental Biology and Fisheries Science	SDG14

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2022	Master Program	M3101C35	1	A	海洋生態學特論	Advanced Marine Ecology	海洋生態學是研究海洋生物及其與海洋環境間相互關係的科學，它是生態學的一個分支，主要內容為探討生物個體、種群、群落以及整個海洋生態系，故關於各類海洋生物的繁殖生長、棲息營養、數量分佈及其與有機、無機環境因子之間的相互關係，海洋生物群落的自然組合的特點和規律，不同生態類群（浮游生物、游泳生物、底棲生物等）的組成、分佈、數量變化及其與海洋環境的關係等均屬海洋生態學特論的範疇。據此本課程將依海洋環境類型、生態過程、生態系統(含河口域、礁岩、大洋、深海、珊瑚礁等)及衝擊(含重要漁業生物)等四個面向加以介紹，以增進學生對海洋生態的過程與衝擊及其與漁業產業關聯性之瞭解。	Marine ecology is the study of marine organisms and their interrelationships with the marine environment, it is a branch of ecology, the main content of which is to explore the organisms, populations, communities, and the entire marine ecosystem, therefore, the reproduction and growth of various types of marine organisms, habitat and nutrition, quantity and distribution and their interrelationships with the organic and inorganic environmental factors, the characteristics and patterns of the natural composition of marine communities, the composition, distribution, quantity and relationship with the marine environment, etc. are all within the scope of the special topic of marine ecology. The composition, distribution and quantitative changes of different ecological groups (plankton, swimming organisms, benthic organisms, etc.) and their relationship with the marine environment are all within the scope of marine ecology. Accordingly, this course will introduce the four aspects of marine environment types, ecological processes, ecosystems (including estuaries, reefs, oceans, deep-sea, coral reefs, etc.), and impacts (including important fisheries organisms), in order to enhance students' understanding of the processes and impacts of the marine ecology, and its relevance to the fisheries industry.	3	Elective Course	環境生物與漁業科學學系碩士班 Department of Environmental Biology and Fisheries Science	SDG13、SDG14
2022	Undergraduate	B92H6G07	1	H	網球(初)	Tennis (Beginner)	1.增進網球技能 2.享受網球運動樂趣，充實休閒生活	1. Improve your tennis skills 2. Enjoy the fun of tennis and enrich your leisure life.	0	Required Course	體育室 General Education Center	SDG3、SDG4、SDG10