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**國立高雄科技大學**  
**NATIONAL KAOHSIUNG**  
**UNIVERSITY OF SCIENCE**  
**AND TECHNOLOGY**  
**授課大綱 Syllabus**

部別：日間部博士

112學年度第2學期

列印日期：2024/03/01

中文課程名稱：藻類與海洋環境專論	英文課程名稱：Special Topics on Algae and Marine Environment	授課教師：曾義盛
開課班級：水產科技博班一甲	學分：3.0	授課時數：3.0
合班班級：		實習時數：0.0

<b>1. 中文教學目標(Chinese Teaching objectives)</b>
本講座的目的是掌握微藻和大型藻類的基礎知識，並介紹基礎知識在海水養殖和環境改善以及有用藻類生物技術中的應用。

<b>2. 英文教學目標(English Teaching objectives)</b>
The aim of this lecture is to acquire the fundamental knowledge of micro-and macro-algae and introduces the application of fundamental knowledge to mariculture and environmental improvement, as well as biotechnology of useful algae.

<b>3. 中文教學綱要(Chinese CourseDescription)</b>
藻類是我們生活中至關重要的關鍵材料，例如健康和藥用材料的生產，海洋生物多樣性的保護，為漁業資源生物提供產卵和生長的場所以及穩定環境。最近，藻類具有如此重要的潛力，世界範圍內藻類的培養和利用研究也在不斷發展。因此，重要的是要介紹有關藻類的最新信息，以便學生更加註意其功能。在本講座中，將重點介紹藻類的以下特性；用作食品，藥品和能源；先進的養殖和種群改良方法；海藻床的建造方法等

<b>4. 英文教學綱要(English CourseDescription)</b>
Algae are the critical key materials for our life, such as production of healthy and medicinal materials, conservation of marine biodiversity, provide spawning and growing grounds for fisheries resource organisms, and environment stabilization. Recently such important potential of algae is recognized and culture and utilization studies of algal have been developing in the world. Therefore, it is important to introduce current information on algae for the students pay more attention for their functions. In this lecture, it will be focused on the followings, characteristics of algae; utilization as food, medicines, and energy; advanced methods of culture and stock enhancement; seaweed bed construction methods, etc.

<b>5. 中文核心能力</b>	
核心能力名稱	核心能力百分比
1 生物資源永續	25%
2 產銷管理能力	25%
3 整合與研究能力	25%
4 創新溝通能力	25%

<b>6. 英文核心能力</b>	
核心能力名稱	核心能力百分比
1 Biological resource sustainability	25%
2 Production and sales management capabilities	25%

3	Integration and research skills	25%
4	Innovative communication skills	25%

無教科書資料。

無參考書資料。

### 9. 教學進度表

週次或項目 Week or Items	中文授課內容 Chinese Course Content	英文授課內容 English Course Content	分配節次 Assigned Classes	備註 Note
	藻類介紹	Introduction to Algae	3	
	藻類的特徵	Characteristics of algae	3	
	微細藻類生理生態	Physiology and ecology of microalgae	3	
	微細藻類產業運用	Industrial application of microalgae	3	
	微細藻類蒐集	Collection of microalgae	3	
	微細藻類顯微觀察、培養	Microscopic observation of microalgae	3	
	大型藻類生態生活史介紹	Introduction to the ecological life history of Seaweed	3	
	大型藻類養殖重要種類與養殖技術	Important species and cultivation techniques for Seaweed cultivation	3	
	大型藻類顯微觀察、組織培養技術	Observation of the culture of macro-algae-Dong kang Biotechnology Research Center	3	
	海藻組織培養技術	Laboratory practice of seaweed tissue culture	3	
	海洋環境介紹	Introduction to the ocean environment	3	

海洋環境的問題	Issues of the ocean environment	3
海洋的汙染物	Pollutants in the ocean	3
藻類與海洋汙染物的關係	Relationship between algae and marine pollutants	3
水環境惡化(富營養化)改善與生物多樣性和水產資源維護	Improvement of water environment deterioration (eutrophication) and conservation of biodiversity and aquatic resources	3
藻類吸附和去除物質、藻場造成	Algae adsorption material and removal materials, seaweed bed construction	3
藻類與海洋環境永續利用	Sustainable use of the ocean, seaweeds and marine environment	3
綜合討論	Discussion	3

#### 10. 中文成績評定(Chinese Evaluation method)

上課互動程度佔70%，作業佔20%，主題報告佔10%。學生的出席率不能低於80%

#### 11. 英文成績評定(English Evaluation method)

The assessment is based on the attendance of students in class and their participation in the discussion (70%), submission of the reports (20%), project presentation (10%). It is required enough attendance not less than 80%

#### 12. 中文課堂要求(Chinese Classroom requirements)

請學生根據與課程主題相關的期刊報告做主題報告

#### 13. 英文課堂要求(English Classroom requirements)

Students are requested to present a report base on the published papers related to the course topics

#### 14. 本課程與SDGs相關項目(This course is relevant to these of SDGs as following)

4. 優質教育(Quality Education); 13. 氣候行動(Climate Action);

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