



課 綱 Course Outline  
環境暨海洋學院學士班

中文課程名稱 Course Name in Chinese	環境科學概論				
英文課程名稱 Course Name in English	Introduction to Environmental Science				
科目代碼 Course Code	CES_10400	班 別 Degree	學士班 Bachelor' s		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
引導學生認識、了解「環境」、「生態」，進而由關鍵性之科學思考訓練來分析人類與環境之關係，學習以基礎之生物、物理及化學原則探討環境及生態系統之運作。探討環境問題由其導因及影響，進而探索解決方案。內容由學習科學方法開始，進入生態系統之認識，對各項自然資源、環境問題含人口、食物、能源、污染、生物多樣性、全球暖化與環境變遷議題之熟悉。期望培養學生以科學方法探索人類文化發展及環境之關係，同時啟發學生對學習環境議題之興趣與方法。					
院教育目標 College.'s Education Objectives					
1	培養兼具國際視野與本土關懷的學生 To develop students who care about local issues and have an international perspective				
2	培養具備自然科學與社會科學知識的人才 To educate students to have knowledge of both the natural and social sciences				
3	培養具備環境倫理與人文素養的環境公民 To teach students to be environmental citizens (i.e., knowledgeable about environmental ethics and human issues.).				
院基本素養與核心能力 College Basic Learning Outcomes				課程目標與院基本素養與核心能力 Correlation between Course Objectives and Basic Learning Outcomes	
A	具備自然科學與社會科學的基礎知識 To be knowledgeable of fundamental theories in the natural and social sciences.			●	
B	具備觀察、理解、闡釋自然環境與人類社會互動及變遷關係的能力 To be able to observe, understand, and interpret the changing interactions of natural resources and human society.			●	

C	具備多元資料收集策略、閱讀論文、撰寫環境報導及創意口頭報告的能力 To have the ability to collect data, understand scientific literature, and write and present environmentally related reports.	●
D	能終身學習、對環境維持熱情、關懷、並願意做出對在地環境獻身的承諾 To cultivate the values of lifelong learning, to maintain enthusiasm and concern for the environment, and to develop commitment to the local environment.	○
E	具備環境倫理觀、社會責任感與社會實踐 To develop and implement environmental ethics and social responsibility.	○
F	具備獨立思考、溝通協調與團隊合作的能 To think independently, to communicate effectively, and to cooperate with others as a team.	●
G	具備基本外國語文能力 The be able to communicate in a foreign language.	○

圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

### 課程大綱 Course Outline

1. Overview of Environmental Science
2. Principles of Ecology
3. Human Population
4. Food Resources
5. Biodiversity
6. Water Resources
7. The Atmosphere and Air Pollution
8. Material and Waste Management
9. Pollution Prevention
10. Environmental Health and Toxicology
11. Sustainable Environment

資源需求評估（師資專長之聘任、儀器設備的配合．．．等）  
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

投影機、筆記型電腦。

### 課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods

This course uses a “Learn-Think-Do” model. To practice by doing: Class Activities, Assignments, quizzes and exams

絕對不要遲到

若無法出席請務必請假。事先email通知，事後請提供相關資訊。

Visit E-learning Weekly: 課程資料、課程活動與討論、作業繳交、問題與討論

Visit Webpage, [http://highered.mcgraw-hill.com/classware/infoCenter.do?](http://highered.mcgraw-hill.com/classware/infoCenter.do?isbn=007305089x)

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### 其他 Miscellaneous

1. Cunningham, W.P. and Cunningham, M.A. (2009) Principles of Environmental Science: Inquiry and Applications. Fifth Edition. McGraw-Hill Companies, Inc.
2. Chiras, D. 2009. Environmental Science. 8th ed. Jones & Bartlett Publishers.
3. Handout