



## 課 綱 Course Outline

自然資源與環境學系碩士班

中文課程名稱 Course Name in Chinese	魚類生態學				
英文課程名稱 Course Name in English	Fish Ecology				
科目代碼 Course Code	NRES50800	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite	無				
課程目標 Course Objectives					
<p>魚類所生存之水域世界是極度多樣性的，因此除了一般的湖泊、河川及大陸棚水域外，魚類也被迫要去解決與適應不同惡劣水域(如深海、極地、高酸或高鹼水、低溶氧)的生存問題。該等魚類之生態適應，發展出令人驚嘆的魚體外形、生理及特殊之行為。此外，魚類亦為我們人類不可或缺之動物性蛋白來源。因此，魚類合理的開發利用與管理，係建立在瞭解魚類生殖策略、掠食、競爭等族群變動之生態學上。本課程之進行，首先由介紹魚類外形及構造功能之多樣性開始，經由環境限制、攝食、能量策略、成長、生殖、環境因子互動、族群變動因子、生活史策略、群聚等魚類生態學重要概念之說明，來瞭解魚類生態生存策略與資源動變原因。這門課程將專注於學習閱讀、解釋且欣賞魚類生態的多樣性與理論。課程的最後的目標，是幫助學生成為更具思考、技能且自信的魚類生態學喜好者。</p>					
系教育目標 Dept.' 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)				
系專業能力 Basic Learning Outcomes				課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.' s Education Objectives	

A	能覺知多元的自然科學與社會科學理論並具備研究能力 To have knowledge of natural and social science theories	○
B	具備自然資源與人類社會議題之調查分析、規劃與經營之能力 To be able to investigate, analyze, plan, and manage both natural resource and human social issues	●
C	具備將環境倫理與生態思想落實於永續性生活型態的能力 To implement sustainable lifestyles based on environmental ethics and ecological principles	○
D	能以整全式的觀點來解析環境問題，並具備發展系統性解決方案的能力 To resolve environmental issues and develop systematic solutions with a global perspective	●
E	具備系統分析、未來思考、溝通協調與團隊合作的能力 The ability to analyze, plan, communicate, and coordinate with others (teamwork)	○
F	具備終身學習、國際視野與外語溝通的能力 To instill the values of lifelong learning, an international perspective, and the ability 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. biodiversity of fishes
2. The environment, organisms, and relationships
3. Effects of abiotic environmental identities on distribution
4. Biotic factors and the structure of fish communities
5. Migration, territoriality and shoaling in fishes
6. Feeding and growth
7. Life-histories and population dynamics
8. Applied ecology of fishes

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、PC、銀幕。

#### 課程要求和教學方式之建議

#### Course Requirements and Suggested Teaching Methods

課程內容解說、多媒體教學、課堂討論、操作實習、學生報告

#### 其他

#### Miscellaneous

Wootton, R J. (1992) Fish Ecology. Chapman and Hall, New York. 212 pp.  
Wootton, R J. (1990) Ecology of Teleost Fishes. Chapman and Hall, New York. 404 pp.  
Diana, J. M. (1995) Biology and Ecology of Fishes. Cooper Publishing Group LLC, Carmel, IN. 441 pp.