



## 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	水棲昆蟲生態學				
英文課程名稱 Course Name in English	Ecology of Aquatic Insect				
科目代碼 Course Code	NRES53000	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					
認識淡水生態系中最為常見且極為重要之大型無脊椎動物水棲昆蟲，包括外部型態與結構、各種採樣方法與技術、水棲昆蟲顯微觀察及影像處理、水棲昆蟲飼養及生活史建立、水棲昆蟲相關生態主題探討、水棲昆蟲應用研究等。藉以建立水棲昆蟲在分類、生態、生物學等領域中之相關認知及研究能力。					
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. External morphology              | 2. Taxonomy                     |
| 3. Life history                     | 4. Behavioral adaptations       |
| 5. Nutrients processing and cycling | 6. Hydrological conditions      |
| 7. Substratum                       | 8. Environmental pollution      |
| 9. Management of habitat            | 10. Aquatic insects and mankind |

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.)

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

多媒體課程講解、文獻書報閱讀討論、戶外教學及研究調查、專題報告

其他  
Miscellaneous