



課 綱 Course Outline  
自然資源與環境學系碩士班一般組

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 principle	●
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 3. Life history 5. Nutrients processing and cycling 7. Substratum 9. Management of habitat	2. Taxonomy 4. Behavioral adaptations 6. Hydrological conditions 8. Environmental pollution 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	
其他 Miscellaneous	