



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	植物生長與發育				
英文課程名稱 Course Name in English	Plant Growth and Development				
科目代碼 Course Code	NRES51700	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	生物學或植物生理學				
課程目標 Course Objectives					
從植物生理學、生物化學與分子生物學的角度，介紹高等植物生長與發育的生理現象，著重於各個植物荷爾蒙在植物生長與發育中的角色，並探討各類植物荷爾蒙相互間的交互作用及對植物生理的影響。					
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. The Plant Hormones: Their nature, occurrence and functions
2. Auxin Action in Cell Elongation and Apical DominanceII.
3. The Induction of Vascular Tissues by Auxin and Cytokinin
4. Gibberellin and Abscisic Acid Action in Cereal Grains Germination
5. Ethylene in Plant Growth, Development, and Senescence
6. Hormone Mutants and Plant Development.
7. Hormones and Reproductive Development
8. Hormones and Seed Development
9. Hormones in Tissue Culture and Micropropagation

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.)

現有合宜專任師資；提供幻燈機、投影機等教學用具；購置訂閱植物生理學相關圖書及期刊。

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

本課程除主題講授外，適時進行植物生長與發育領域代表性新發表期刊、學術論文之選讀與討論。成績之評定以學生的口頭報告、書面報告、期中及期末考為原則。

其他
Miscellaneous