**課程綱要**

葉佳宗 v1.2 2012/8/15

**開課系所：**都市計劃研究所

**課程中文名稱：**景觀生態

**課程英文名稱：**Landscape Ecology

**修習系級：**碩士班

**選修類別：**選修(半學年)

**學分：**3學分 (3小時)

**教學目的：**

本課程主要目的在於幫助學生了解景觀生態學理念、方法與應用。各週次的課程內容讓學生廣泛地了解地景的結構、功能以及景觀的動態的關聯性與相互作用，協助學生學習景觀分析的方法及模型，進而探討景觀生態學的應用，特別是景觀生態學在生態規劃、管理的應用，以及景觀生態學在都市土地利用與空間規劃的研究與發展。

**內容綱要：**

1. 課程介紹：景觀生態學的基本概念、發展歷史、研究範疇
2. 規劃與景觀生態、都市永續發展與景觀生態
3. 跨學門的景觀生態學：景觀生態學與歷史、文化、人類學、社會學
4. 景觀格局的形成與結構
5. 景觀格局的結構與功能特徵
6. 景觀時空變遷(自然干擾、人為干擾與景觀變遷)
7. 景觀生態學的重要理論(一)：島嶼生物地理學理論、複合族群理論
8. 景觀生態學的重要理論(二)：連結度、滲透理論、嵌塊體動態理論
9. 景觀指數分析原理與方法
10. 景觀指數在規劃管理上的運用
11. 景觀模型：概述、主要的景觀模型、景觀空間尺度
12. 景觀生態學應用的原理與應用領域
13. 景觀生態學的應用：生態保育與復育、生態規劃管理
14. 景觀生態學與土地利用規劃
15. 景觀生態學與都市環境規劃與管理
16. 學生報告與討論
17. 景觀生態學之新興研究與發展方向
18. 期末考試

**評分標準：**

課程參與(30%)、作業(20%)、期末考試(30%)、學期報告(20%)

**作業：**

1 page summary of the article, including: a) key findings; b) methodology; c) limitations; d) your comments.

**主要參考書目：**

* Turner, M.G., Gardner, R.H., O’Neill, R.V. 2001. Landscape Ecology in Theory and Process. Springer, New York.
* Wiens, J., Moss M. (eds) 2005. Issues and Perspectives and Landscape Ecology. Cambridge, New York.
* 鄔建國，2003，景觀生態學-格局、過程、尺度與等級。五南圖書出版社。
* 張俊彥等(譯)，2011，景觀量測。五南圖書出版社。(Leitão, A.B., Miller, J., Ahern, J., McGrigal, K. 2006. Measuring Landscapes: a planner’s Handbook)

**建議參考書**

* Forman R.T.T. and Godron M., 1986. Landscape Ecology. Wiley, New York, USA.
* Wu, J. and Hobbs, R.J. 2006. Key Topics in Landscape Ecology. Cambridge University Press.

**期刊文章主要出處：**

Landscape and Urban Planning, Elsevier, ISSN: 0169-2046

Landscape Ecology, Springer, ISSN: 0921-2973 (print version); 1572-9761 (electronic version)

**選讀閱讀文獻：**

1. Antrop M. 2006. Sustainable landscapes: contradiction, fiction or utopia?. Landscape and Urban Planning 75:187-197.
2. Antrop, M. and Van Eetvelde, V. 2000. Holistic aspects of suburban landscapes: visual image interpretation and landscape metrics, Landscape and Urban Planning, 50: 43-58.
3. Botequilha Leitão A. and Ahern J. 2002. Applying landscape ecological concepts and metrics in sustainable landscape planning. Landscape and Urban Planning 59: 65-93.
4. Fischer, J., and Lindenmayer, D.B. 2007. Landscape modification and habitat fragmentation: A synthesis. Global Ecology and Biogeography 16: 265-280.
5. Forman R.T.T. 2008. The urban region: natural systems in our place, our nourishment, our home range, our future. Landscape Ecology 23: 251-253.
6. Herold, M., Scepan, J. and Clarke, K. C. 2002. The use of remote sensing and urban landscape metrics to describe structures and changes in urban land uses, Environment and Planning A, 34: 1443-1458.
7. Luck, M. and J. Wu. 2002. A gradient analysis of the landscape pattern of urbanization in the Phoenix metropolitan area of USA. Landscape Ecology 17:327-339.
8. Luck, M. and Wu, J. 2002. A gradient analysis of urban landscape pattern: a case study form the phoenix metropolitan region, Arizona, USA, Landscape Ecology, 17: 327-339.
9. McGarigal K, S Tagil, and SA Cushman. 2009. Surface metrics: An alternative to patch metrics for the quantification of landscape structure. Landscape Ecology 24:433–450.
10. Musacchio, L. and Wu, J.2004. Collaborative landscape-scale ecological research: Emerging trends in urban and regional ecology. Urban Ecosystems 7:175-178.
11. Potschin M.B. and Haines-Young R.H. 2006. Landscape and sustainability. Landscape and Urban Planning 75: 155-161.
12. Redman, C.L., Grove, J.M., and Kuby, L.H. 2004. Integrating social science into the Long-Term Ecological Research (LTER) network: Social dimensions of ecological change and ecological dimensions of social change. Ecosystems 7: 161-171.
13. Scheller RM, and DJ Mladenoff. 2007. An ecological classification of forest landscape simulation models: tools and strategies for understanding broad-scale forested ecosystems. Landscape Ecology 22: 491-505.
14. Wu J. 2006. Landscape ecology, cross-disciplinarity, and sustainability science. Landscape Ecology 21: 1-4.
15. Wu, J. 2010. Urban sustainability: an inevitable goal of landscape research. Landscape Ecology 25: 1-4.
16. Wu, J. 2004. Effects of changing scale on landscape pattern analysis: Scaling relations. Landscape Ecology 19:125-138
17. Yeh, C.-T., Huang, S.-L. 2009. Investigating spatiotemporal patterns of landscape diversity in response to urbanization. Landscape and Urban Planning 93, 151-162.