

都市生態學(Urban Ecology) 課程大綱

葉佳宗 v6.1 2020/09/17

開課系所：都市計劃研究所

課程中文名稱：都市生態學

課程英文名稱：Urban Ecology

修習系級：碩、博士班

選修類別：選修(半學年)

學分：3 學分 (3 小時)

上課教室：公院 630

授課方式：老師授課為主，配合重要文獻選讀與同學報告、討論

教學目的：

本課程之主要目的在於幫助學生了解都市生態學的理论發展、內涵、研究趨勢、應用領域。課程內容設計的理念在於協助學生建立整合人類活動與生態系統作用之間關係的概念架構，進而能從整合性觀點看待都市發展過程以及人類與自然環境之間的交互作用，並且思考都市在全球環境變遷挑戰下的發展方向。本課程將協助學生建立都市生態學研究的基礎，並且增進學生未來在都市土地使用規劃與管理等工作領域專業能力。

課程內容：

Part I Context of Urban Ecology

- Cities and ecology: Introduction to urban ecology
- Cities as systems

Part II Urban Physical Factors

- The urban atmosphere: air quality, weather and climate
- Urban hydrology

Part III Urban life forms

- Urban habitats
- Urban flora and fauna
- Urban green spaces

Part IV Values and Uses

- Urban ecosystem services
- Human and nature: human health and well-being
- Ecological engineering and conservation

Part V Responsibilities and planning

- Adapting to change
- The role of urban ecology in future cities

課程進度

2020

1. Introduction to urban ecology, elements of ecology (i) (9/17)
2. Elements of ecology (ii) (9/24)
3. 中秋節假期 (10/1)
4. Cities as systems: Integrations of cities as systems (10/8)
5. Socio-ecological systems, coupled human and natural systems (10/15)
6. Urban atmosphere: weather, climate, air quality (10/22)
7. Urban hydrology: urban water flow, urban runoff, urban flooding, water pollution (10/29)
8. 戶外教學(11/05)
9. Urban habitats, urban biodiversity, urban flora and fauna (11/12)
10. Urban green spaces (11/19)
11. Urban ecosystem services (11/26)
12. Human and nature: human health and well-being (12/03)
13. Urban consumption and urban land teleconnections (12/10)
14. Urban ecological engineering and conservation (12/17)
15. Urbanization and global environmental change, cities and climate change, urban risk and vulnerability, urban mitigation and adaptation (12/24)
16. 學生期末報告(i) (12/31)

2021

17. 學生期末報告(ii) (01/07)
18. The role of urban ecology in the future cities (01/14)

成績評量方式:

上課參與 30%、課堂報告與作業 40%、期末報告(口頭及書面)30%

作業與學期報告:

1. 重要期刊文章閱讀(約 2 週 1 篇)以及摘要撰寫(2 pages summary of the reading article including: novel ideas, methodologies, key findings, and your comments.)
2. 期末報告口頭報告 (2020/12/31 & 2021/01/07 舉行)
3. 期末報告書面繳交(寒假開始日起 14 天內繳交)

教科書:

1. Douglas, I. and James, P. (2014). Urban Ecology: An Introduction. Routledge, New York.
2. Adler, F.R., Tanner, C. (2013). Urban Ecosystems: Ecological Principles for the Built Environment. Cambridge, New York.

參考書目:

1. Gaston, J. K.(Editor) (2013) Urban Ecology. Cambridge, New York.
2. Bulkeley H. (2013) Cities and climate change. Routledge, London.

推薦期刊文章主要出處:

Urban Ecosystems, SpringerLink, ISSN: 1083-8155

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