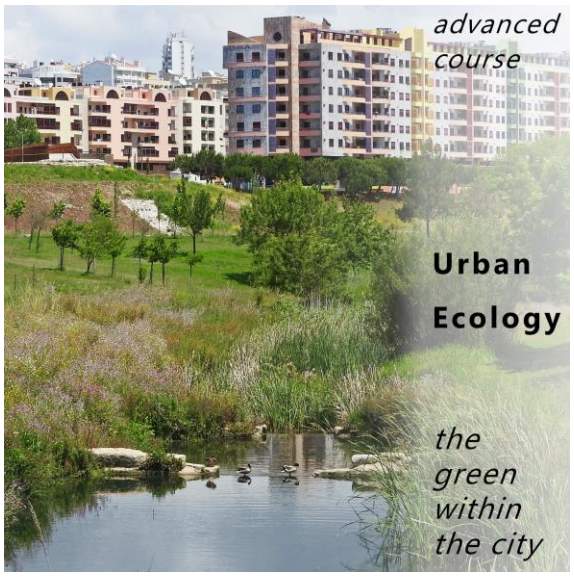

Urban Ecology: the green within the city

Organizers / Lecturers: Ana Catarina Luz, Pedro Pinho, Cristina Branquinho, Paula Gonçalves, Filipa Grilo, Raquel Mendes, Margarida Santos-Reis (cE3c)

Note: This course is intended to be presential, but if needed (e.g. due to COVID-19 security measures by the time of the course) it may be adapted to be given remotely

Date: February 15th-19th 2021

Schedule: Lectures/Computer Lab – 4 days, Field trip – 1 day (36h)

Timetable: 9:00-12:30 and 14:00-17:30

Context

The continuous urban development associated with the growth of the world population has become one of the most important challenges of the present time. Today, cities accommodate more than 54% of the world's population, a proportion that is expected to increase to 70% by 2050. Trends in urbanization show that cities are becoming more complex and heterogeneous social-ecological systems with growing demand for natural resources mainly for infrastructure, housing, food, water, and energy. These coupled with generalized environmental degradation and rapid social transformation is posing growing challenges that require innovative and holistic ways of planning, managing and governing urban areas.

In this context, research is focusing on the role of the urban green infrastructure to deliver the ecosystem services necessary to city-dwellers. The urban green infrastructure is composed by the network of green spaces, such as public parks, urban forests, allotment gardens, green roofs, derelict lands, and street trees among other. These green spaces are important for addressing urban sustainability and resilience to global changes, as they play an important role to ensure the well-being of human populations.

Objectives

The goal of this course is to provide to the participants with current and practical knowledge on urban ecology, including ecological and social aspects. It aims at providing an integrated approach on urban socio-ecological systems. The focus of the course will extend to understand cities as a social-ecological system, analyse its main challenges, understand the role of the urban green infrastructure and nature-based solution, learn how to assess ecosystem services, use ecological indicators to evaluate the status and trends of the environment, as well as, analyse people's perceptions and knowledge regarding biodiversity and ecosystem services. Additionally, participants will gain knowledge of concepts, methods, and tools through presentation of key findings from recent projects carried out in multiple case studies in European cities, as well as, presentations from practitioners.

General Plan

- Overview on the theory and concepts beneath Urban Ecology:
  i. urbanization patterns and environmental impacts
  ii. cities main challenges and the urban green infrastructure
  iii. ecosystem services and nature-based solutions to address urban resilience and sustainability
  iv. environment and people's health
  v. functional diversity and traits
- Presentation by local stakeholders, providing the visions and implementation of solutions based in Urban Ecology, followed by field sites visits, to understand in loco que challenges and solutions found.
- Presentation by invited speakers from ongoing research projects, to present state of the art knowledge and research being done internationally.
- Presentation and discussion with students regarding key topics for the application of the knowledge obtained, and presentation of study cases:
  i. Ecosystem services assessment
  ii. Heat-island effect
  iii. Air pollution
  iv. Urban allotment gardens – people's motivations and practices
  v. Permaculture as a potential tool for sustainable food production

- Application of the knowledge acquired in a practical case on the implementation of nature-based solutions in one of the parks visited.

This course can have a recognition of 6 ECTs for FCUL PhD students enrolling in it as part of their first doctoral year. For students only requiring 5 ECTs recognized in their specific PhD programmes the last 6 hours of the course are not mandatory and the certificate will be on 'Topics in Urban Ecology'.

Specific needs

. Lectures' room
. Computers' room
. Transportation to the field

Nº (min, max) students: 10-15

Minimal formation of students: Bachelor in Natural Sciences or Social Sciences with interest in urban green spaces management

Directed to: MSc or PhD students in Biology, Environmental Sciences, Ecology or related areas, postdocs and professionals working in related topics

Fee: free for 1st year PhD students in Doctoral programmes at FCUL (e.g. Biologia), Biodiversity, Genetics and Evolution (BIODIV UL; UP) and Biology and Ecology of Global Changes (BEAG UL, UA) when the course counts credits for their formation, in which case the delivery of a final report done after the course is mandatory; the course is also free for more advanced PhD students of the BIODIV programme (ULisboa or UPorto); 50 € for other PhD students from cE3c, 80 € for PhD students from institutions of the PEERS network (CFE-Coimbra); 125 € for FCUL Master students and unemployed; 180 € for BTI, BI and other PhD students; 250 € for Professional and postdocs.

When the maximum number of students is reached 8 vacancies will be available for non-paying 1st year PhD students mentioned above, being, by order of preference: 1) cE3c students; 2) BIODIV students (not from cE3c); 3) FCUL students (not from cE3c); 4) BEAG students (not from FCUL).

Deadline for applications: January 15th 2021

Candidates should send to Ana Luz (anaccluz@gmail.com) a short cv and motivation letter. The cv and letter should be named as *1st-lastNAME-CV.pdf* and *1st-lastNAME-ML.pdf* (that is personalize the name of each file with your first and last name).

In the email please add the following information:

Full Name:

E-mail:

Phone:

Professional activity: Professional/Postdoc, BTI, BI (or other non-post-doc research grant), PhD student (with/ without scholarship), Lic. (Bachelor)/Master student

PhD student of the 1st year of a Doctoral programme at FCUL, BIODIV (FCUL/FCUP), or BEAG (FCUL or UA)?

If yes to the above question, PhD student doing the Course to count credits for 1st year?:

PhD student of cE3c or CEF (Centro de Ecologia Funcional)?:

Name of the PhD programme: