

## **Tárgytematika / Course Description**

### **Urban ecology**

**KGNM\_RKTA008**

**Tárgyfelelős neve /**

**Teacher's name:** dr. Hardi Tamás

**Félév / Semester:** 2023/24/2

**Beszámolási forma /**

**Assesment:** Vizsga

**Tárgy heti óraszám /**

**Teaching hours(week):** 2/0/0

**Tárgy féléves óraszám /**

**Teaching hours(sem.):** 0/0/0

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### **OKTATÁS CÉLJA / AIM OF THE COURSE**

The aim of the course is to acquaint students with cities and the ecological aspects of urban development processes. The aim is to shed light on how development activity and territorial socio-economic development form a system with ecological processes, what interrelationships exist, and how the study of these can be integrated into other topics of our scientific knowledge.

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### **TANTÁRGY TARTALMA / DESCRIPTION**

1. The discipline, development, trends, and research methods of urban ecology; clarification of the concepts used. The landscape, the geography, and ecology of the landscape, its role in socio-economic development
2. Environmental determinants of settlement and urban development in history, the transformation of urban and rural landscape in the wake of social changes
3. The urbanization process as a territorial phenomenon: the developmental relationship of rural and urban areas, the internal structure of settlements
4. The flow of nutrients and energy in the human environment. Natural resources. Ecosystem services as development resources
5. The concept of sustainability, its natural, social, and economic aspects.
6. Relationship between topographic and climatic elements and settlement and territorial development. Local/urban microclimates, the phenomenon of the heat island; issues of changing climate, and adaptation
7. The city and water: the role of surface waters, rivers, lakes in urban development, in the modern life of cities. The issue of water pollution, rainwater, groundwater, the phenomenon of "urban karst", the water management of settlements
8. Air, air pollution, the transformation of soils in the urban environment
9. Areas used by humanity at different intensities as the main features of habitats, their development; The fauna and flora of the settlements, their connection with the development
10. The environmental impact, its qualitative and quantitative indicators, and risk analysis. Regulatory principles

11. International conventions, their implementation, climate, ICPDR, Water Framework Directive, Natura 2000, etc., and their impact on development activities
  12. Environmental aspects of settlement and territorial development strategies. The methodology and experiences of climate strategies, highlighting the local, and regional strategy-making
  13. Fieldwork in and around Győr
  14. Processing the results of the field lesson, and presentation of project work
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## **SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD**

- 1) Project/paper activity during the semester
  - 2) Oral exam in the exam period
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## **KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL**

Richard T. T. Forman (2014) Urban Ecology: Science of Cities. Cambridge University Press;

Richard T. T. Forman (2014) Land Mosaics: The Ecology of Landscapes and Regions. Springer; Bolund P., Hunhammar S. 1999. Ecosystem services in urban areas. *Economical Ecology* 29 évf. 293-311.pp.; Park, R. E. et al. 1926. *The City*. The University of Chicago Press, Chicago, p. 366.; *Journal of Urban Ecology, Landscape Planning és a Landscape and Urban Planning*

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## **AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL**