Study programme: MAS Geography

Course title: Ecology of Urban Systems

Teacher(s): Imre Nađ

Status: elective

ECTS: 5

Requirements: none

Learning objectives

In the framework of theoretical teaching students should obtain knowledge of changed and diversified - anthropogenic – ecosystem, whose development and the degradation process depend on the man. Students need to get the main guidelines about the essence of sustainable development, sustainable settlement planning/city.

Learning outcomes

Students are prepared to give complex judgment about the ecological structure of the urban environment and use their theoretical and practical knowledge. Students will be able to participate in the task solving processes and make conclusions in the process of designing development guidelines for ecological towns.

Syllabus

Theoretical part:

Introduction to urban ecology, urban ecosystem concept, circulation of matter and energy in cities (urban metabolism), town micro climate, environmental needs and requirements of proper construction, air pollution of urban areas, structure, meaning and urban greenery development, circulation of water in urban areas and the impact on the urban ecosystem, ecological aspect of use of construction materials, "sick building syndrome", ecology of home and work, noise and vibration, waste management, problem and practice of depositing and processing of urban waste. Complex evaluation of urban environment, urban development and ecocentric urban planning with a special focus on climate change, comparative analysis of urban ecological status of European and Serbian cities.

Practical part:

Comparative analysis of urban-ecological conditions in cities of developing countries and European and American cities. Ecocentric strategic analysis and spatial planning of cities. *Research study:* Urban-environmental (complex or thematic) analysis of a city.

Literature

Urban Ecology. An International Perspective on the Interaction Between Humans and Nature. (Eds. John M. Marzuff et al.), Springer, New York. 2008. 807 p.

A. Phdungsilp (2006): Energy Analysis for Sustainable Mega-Cities. Stockholm ISBN 91-7178-388-1

E. H. Decker, S. Elliott, Felisa A., Smith, Donald R. B., and F. S. Rowland (2000): Energy and material flow through the urban ecosystem. Annu. Rev. Energy Environ. 2000. 25:685–740

Љешевић М. (2002): Урбана екологија. Универзитет у Београду, Географски факултет, Београд.

Нађ И. (2011): Урбана екологија као интердисциплинарна научна дисциплина. Зборник радова департмана за географију, туризам и хотелијерство, ПМФ Нови Сад. Нови Сад

Nagy I. (2008): Városökológia *(Урбана екологија)* Dialóg Campus, Budapest. 335 p.)

Weekly teaching load 4 (60)	**Lectures 2**	**Exercises 2**

Methods of Teaching

Lectures, Illustration and Demonstration, Practical skills. Lectures are conducted using a computer presentations on the video projector, projection of films and slides. The exercises are performed practically, where students have to write and present one seminar paper durin the course.

Grading method (maximu 100 points)

Pre-examination assignments	points	**Final examination**	points
Activities during lectures	**0-5**	Written examination	
Activities during exercises	**0-5**	Oral examination	**30-45**
Colloquia	**0-40**	.....	
Seminar paper	**0-5**		