Tárgy neve: Environment and GIS

Tárgyfelelős neve: Dr. Magyari Enikő
Tárgyfelelős tudományos fokozata: PhD
Tárgyfelelős MAB szerinti akkreditációs státusza: AT

Az oktatás célja:
a, knowledge
- Knowledge of national and international conservation categories
- Knowledge of spatial data bases used in nature conservation
- Knowledge of the vocabulary of nature conservation
- Negotiation skills in spatial data management for nature conservation projects
b, abilities
- Management of nature conservation data using geographic information software
- Active participation in the preparation of conservation project plans
- Competence in dealing with domestic nature conservation problems
c, attitude
- Accepts and adheres to the ethical principles of work and organizational culture, especially with regard to the copyright related to geoinformatics.
- Committed to environmentally conscious behaviour in his/her field and laboratory activities.
- Monitors professional and technological developments in the field of geoinformatics and the labour market trends.
d, autonomy and responsibility
- Independence regarding the thorough examination and elaboration of professional issues and processes.
- Feels responsible for meeting and making others meet the deadlines. He/she is responsible for his/her work and for his/her co-workers' work in projects.

Az oktatás tartalma: The aim of the course is to introduce students to the basic issues of nature conservation (species-level protection, habitat protection, population protection) and to give a brief overview of national and international nature conservation classification systems. After that, students study GIS challenges facing nature conservation, gain insight into the GIS databases of nature conservation, conduct landscape character surveys in a freely chosen sample area, get acquainted with the GIS database of NATURA 2000 sites, use realistic ecosystems. A practical task relating to the protection of wetlands in the Carpathian Basin will be solved by creating a map database of present and past wetlands and determining restoration potentials. At the end of the course, the effects of invasive species on the ecosystems are introduced and the history of the spread of an invasive species is depicted through GIS databases using some examples.
Course structure:
1. History of nature conservation (domestic, international), basic concepts (Relationship between nature conservation and environmental protection, Objects and levels of nature conservation, domestic protection categories, Forms of nature conservation activity)
2-3. GIS challenges before nature conservation: practical examples
4-5. Landscape character studies in GIS, project task
6-7. GIS system of the Natura 2000 network, project task
8. National Ecosystem Service Mapping and Assessment Program (NÖSZTÉP)
9-10. Land cover - ecosystem - ecosystem service, project task
11-12. Extent of loss and restoration potential of wetlands in the Carpathian Basin by joint evaluation of soil, surface cover and habitat maps using GIS methods (based on Decleer et al 2016), project task
13. Invasive (alien) species and conservation issues. Use of major Hungarian invasive animal and plant species, nature conservation treatments, Hungarian national parks, http://web.okir.hu/sse/?group=TIR OKIR.

A számonkérés és értékelés rendszere: practical course mark based on course work.

Kötelező irodalom:

- Haines, Aubrey (1996). The Yellowstone Story: A History of Our First National Park: Volume 1 Revised Edition. Yellowstone Association for Natural Science, History of Education.
- Primack, B.R. (2014): Essentials of Conservation Biology, Sixth Edition. Boston University
- Dyke, F. (2003) Conservation Biology: Foundations, Concepts, Applications

Ajánlott irodalom:

- Harvey, F; Mei-Po Kwan; Pavlovskaya M (2005): Introduction: Critical GIS, Cartographica, Volume 40 Issue 4, Winter, DOI: 10.3138/04L6-2314-6068-43V6
- ESRI (2007): GIS for Wildlife Conservation, https://www.esri.com/~/media/Files/Pdfs/library/bestpractices/wildlife-conservation.pdf
- Geneletti, D (2004): A GIS-based decision support system to identify nature conservation priorities in an alpine valley, Land Use Policy, Volume 21, Issue 2