**SYLLABUS** (MODULE-ERASMUS+)

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| Course/module (as specified in the approved curriculum for the field of study) **Wetland conservation** | ECTS**3** | Component code**ENVI 2.4** |
| Name in Polish**Ochrona mokradeł** |
| Unit(-s) providing the course/module (Faculty, Institute/Department)**Faculty of Environmental and Mechanical Engineering, Department of Ecology and Environmental Protection** |
| Head of course/module (e-mail address)**Agnieszka Ławniczak-Malińska, Prof. (****agnieszka.lawniczak@up.poznan.pl****)** |
| Other teachers**-** |
| Course category**Open** | Language**English** | Level**Bachelor/Master** | Profile**Academic-general** | Semester**Winter/summer** |
| **TYPE OF CLASSES/LECTURES AND THE NUMBER OF HOURS**(organised classes/lectures and self-study) |
| Type of studies: full-time |  | Type of studies: extramural |  |
| * lectures
 | 14 | * lectures
 | - |
| * practical classes
 | 14 | * practical classes
 | - |
| * field exercise
 |   | * field exercise
 | - |
| * other lessons
 |  - | * other lessons
 | - |
| * self-study
 |  48 | * self-study
 | - |
| Total number of hours: | 76 | Total number of hours: | - |
| **PRE-REQUSITES**Basics of environmental sciences. |
| **OBJECTIVE OF COURSE/MODULE**This course will provide an overview of the wetland ecology, restoration and conservation methods of wetland habitats. |
| **TEACHING METHODS**Lectures, tutorials, field trip. Possibility to use distance learning tools and techniques. |
| **LEARNING OUTCOMES** | Referenceto field outcomes |
| Knowledge | O1: Students will have advanced knowledge of the role of wetlands in environmentalengineering and environmental protection.O2: Students will discover advanced methods to restore and protect different types of wetlands.O3: Students will know about the natural and human impact on different type of ecosystems and how to evaluate its conditions. | Notapplicable |
| Skills | O4: Students will have skills to write reports on environmental risks and to undertake simple field research.O5: Students will be able to evaluate conditions of the different types of wetlands using standard methods. | Notapplicable |
| Socialcompetences | O6: Students will understand the social responsibility for the environment.O7: Students will be able to take a part in an open discussions about climate changes and its consequences. | Notapplicable |
| **METHODS TO VERIFY LEARNING OUTCOMES**Oral individual report,Assessment of participation in a discussion.Final written exam | Outcome ReferenceNumbersO1, O2, O3,O4, O5,O6, O7 |
| **TEACHING CONTENT****Lectures**: Wetland classifications, wetlands distribution in Poland and around the world, wetlands protection, criteria for identifying wetlands of international importance, Ramsar convention, protected areas; Hydrological regimes in the different types of wetlands; Role of wetlands: 1) hydrological: water cycle, 2) biodiversity: target species, bioindicators, invasive and rare species, red list; 3) climate change: microclimate, emission and reduction of greenhouse gases; 4) paleontological; 5) economical: water quality control, flood protection, 6) education etc.. Nutrient cycle in wetlands, primary production, nutrient limitation, N:P, N:K nutrient ratio in plant species as indicators of environmental changes.**Practical classes:** Wetlands restoration and conservation: methods, advantage and disadvantage of applied methods. |
| **Forms and criteria for passing of course/module** PresentationsExam | Percentage of final mark40%60% |
| **LIST OF LITERATURE** 1. Mitsch W.J. ,Gosselink J.G. 2003. Wetlands. John Wiley &amp; Sons.
2. Okruszko T., Maltby E., Szatylowicz J., Miroslaw-Swiatek D., Kotowski W. 2007. Wetlands: Monitoring, Modelling and Management. Taylor &amp; Francis, The Netherlands.
3. Directive 79/409/EEC (Birds Directive) on the conservation of wild birds.
4. Directive 92/43/EEC (Habitat Directive) on the conservation of natural habitats and of wild fauna and flora.
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