TEMPUS/EcoBRU - Ecological Education for Belarus, Russia and Ukraine

University of Žilina
Faculty of Civil Engineering

# Environmental Education at University of Žilina

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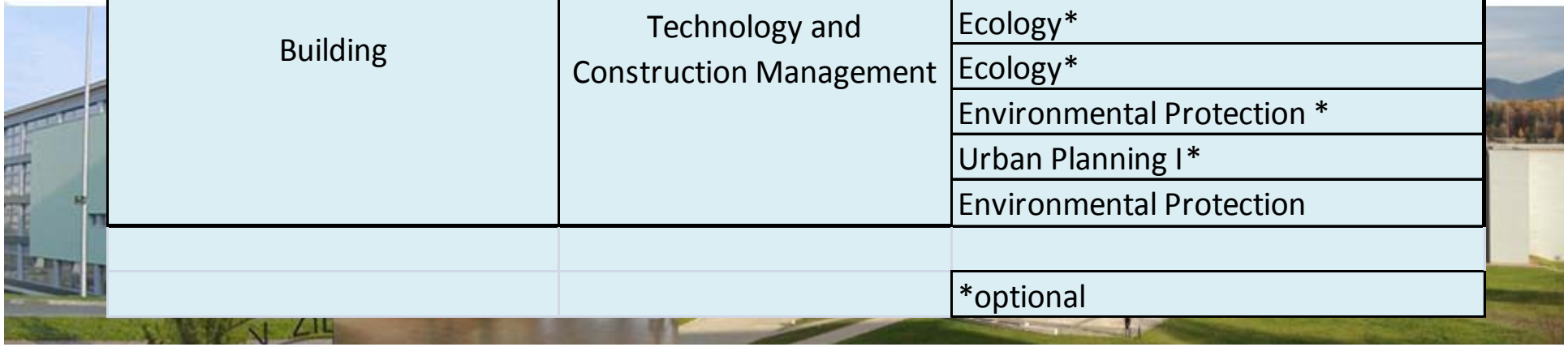
# Environmental Education at University of Žilina

| Bachelor's study | | |
|---|---|---|
| **Study Field** | **Study programm** | **Subject** |
| Geodesy and Cartography | Geodesy and Cartography | Urban Planning I |
| Constructions and Traffic Structures | Building | Urban Planning I (full-time study) |
| | | Urban Planning I (distance study) |
| Civil Engineering | Civil Engineering | Urban Planning I |
| | | Thermal Performance of Buildings |
| | | Building and Environment |
| | | Urban Planning II |
| Building | Technology and Construction Management | Urban Planning I |
| | | Environmental Protection |
| | | Spatial Planning* |
| | | Ecology* |
| | | Ecology* |
| | | Environmental Protection * |
| | | Urban Planning I* |
| | | Environmental Protection |
| | | |
| | | *optional |



# Urban Planning I

**Learning outcomes**

Mastering the basic principles of spatial planning as a tool of sustainable development. Knowledge of urban issues, legislative and administrative process of town planning in the Slovak Republic. Land Use Plan (LUP) Documentation. Historical landscape.

**Prerequisites** students are able to :

- understand the LUP Documentation
- know principles of optimal spatial planning in Slovakia
- identify historical landscape and historical urban structures
- define Potentials and Limits of the landscape
- know urban policy and management tools

# Urban Planning II

**Learning outcomes**

The subject Urban Planning II follows up with the subject Urban Planning I. The aim of the subject is to deepen knowledge from Urbanism and Slovak landscape.

**Prerequisites** students are able to :

- analyse interventions designed by LUP Documentation
- know political and social background of urban planning in Slovak republic
- know the principles of optimal spatial development
- elaborate historical structures analyses of built-up area
- design the optimal development of the town
- estimate  tendencies in the urban development

# Thermal Performance of Buildings

**Learning outcomes**

Students are able to do basic thermal technical calculations of construction. They know the principles of optimal design of construction to meet thermal, technical and ecological requirements. They know Slovak, Czech and EU environmental legislation support.

**Prerequisites**

Knowledge of the fundamental physical principles and thermal properties of constructions and building materials.

# Building and Environment

**Learning outcomes**

The aim of the subject is to understand the principles of interactions between indoor building construction and its environment.

**Prerequisites** students are able to :

- applying the mastered principles to design environmentally friendly constructions according with Slovak and EU laws.

# Environmental Protection

**Learning outcomes**

General overview about the natural environment and the interactions with human factor. To know landscape typology, their characteristics, possibilities of exploitations, treatment and protection.

**Prerequisites** students are able to :

- understand the principles of sustainable and equitable use of resources without degrading the environment or risking health or safety
- knowledge of Slovak environment and environmental legislation

# Spatial Planning

**Learning outcomes**

Landscape, its potentials and limits of development. Spatial planning as a tool of sustainable development of the country.

**Prerequisites** students are able to :

- apply basic knowledge of Spatial Planning and Urbanism in their praxis
- understand axes and tendencies of EU development and the role of Slovak republic in this process
- know principles of technical infrastructure designing and transport infrastructure designing
- understand principles of development, potentials and limits of Slovakia in European space

# Ecology

**Learning outcomes**

The aim of the course is to familiarize students with the selected theoretical and practical issues from Ecology. To know the methodology and understand analytic-critical approaches of environmental assessment in conditions of Slovak republic.

**Prerequisites** students are able to :

- use terminology and methodology and approaches
- understand the principles of landscape management, exploitation and treatment
- methodology LANDEP
- landscape components and their interactions, urban space and
- greenery and urban space, greenery and infrastructure

# Environmental Education at University of Žilina

| Master´s study | | |
|---|---|---|
| **Study Field** | **Study programm** | **Subject** |
| Constructions and Traffic Structures | Railway Engineering (full-time study/distance study) | Infrastructure Planning * |
| | | EIA - Environmental Impact Assessment * |
| | Road Engineering (full-time study/distance study) | Infrastructure Planning * |
| | | EIA - Environmental Impact Assessment * |
| | Civil Engineering Structures (full-time study/distance study) | Infrastructure Planning * |
| | | EIA - Environmental Impact Assessment * |
| Civil Engineering | Bearing Structures of Buildings | Construction Design/Atelier 3 |
| | | EIA - Environmental Impact Assessment * |
| | | Construction Defects and their Maintenance |
| Building | Technology and Construction Management (full-time stud/distance study) | Infrastructure Planning * |
| | | EIA - Environmental Impact Assessment * |
| | | |
| | | *optional |

# Infrastructure Planning

**Learning outcomes**

Acquire principles of transport-planning process, interactions of different transport according with urban, architectural and environmental requirements.

**Prerequisites** students are able to :

- understand main principles of Infrastructure Planning process
- know infrastructure in Slovak republic and EU and analysis of urban background of infrastructure planning process
- management of risks, visualisation of transport, methodology of transport optimisation
- stationary transport/parking, transport infrastructure in dense built-up areas and urban agglomerations

# EIA - Environmental Impact Assessment

**Learning outcomes**

Syllabus is prepared according with Slovak legislative needs for proceeding preliminary environmental study.

**Prerequisites** students are able to :

- know the terminology, EIA – process, legislative background
- Strategic environmental assessment (SEA) process
- EIA process of transport infrastructure
- proceeding noise study
- have basic knowledge of multicriterial assessment
- BAT technologies in EIA process
- waste management and EIA process

# Construction Design/Atelier 3

**Learning outcomes**

Subject Atelier 3 follows Atelier 1 and 2 (Bachelor´s Study) and is specially focused on Thermal Buildings Characteristics and Termal Performance of the construction. The aim of the subject is to draw up an architectural and engineering design of building. Project has to prepared according with Act 183/2006 Coll. on town and country planning and building code (Building Act) and according with environmental needs.

**Prerequisites** students are able to :

-Draw up an architectural and engineering design of building

- prepare complete building documentation according with Building Act

# Construction Defects and their Maintenance

**Learning outcomes**

Analysis and diagnosis of building defects (physical, chemical and biotical). Theoretical analysis of causes of degradation, possibilities of their treatment and management.

**Prerequisites** students are able to :

- identify building defects
- propose types of treatment according with the defects
- know construction details and their role in defectless structure
- know sanation methods of constructions

| Doctoral study | | |
|---|---|---|
| **Study Field** | **Study programm** | **Subject** |
| Constructions and Traffic Structures | Theory and constructions of civil engineering (full-time study/distance | Environmental Science |
| Building | Technology and Construction Management (full-time stud/distance study) | Environmental Science |

# Environmental Science

**Learning outcomes**

Pollution Prevention, protection of the environment of the organic and anorganic contaminants caused by construction and operating life of buildings.

**Prerequisites** students are able to :

- elaborate environmental plan of construction
- know legislative background in Slovak republic and EU
- know components of the environment (soil, water, air, abiotic and biotic sphere, geology and human activity in the landscape)
- understand interactions between human factor and its environment and accept human element as an essential one in landscape management process

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# Environmental Support Programmes/Institutions in Slovak Republic

# Institute of Ecological and Experimental Architecture (FA-STU)

http://www.fa.stuba.sk/english/institutes/institute-of-ecological-and-experimental-architecture.html?page_id=1059

# Environmental Support Institutions

- Slovak Environmental Agency
- Slovak Environmental Inspection
- Passive House Institute
- Slovak Green Building Council

# Slovak Environmental Agency

**http://www.sazp.sk/public/index/index.php**

http://www.sazp.sk/public/index/index.php?lang=en

# Slovak Environmental Inspection

**http://www.sizp.sk/**

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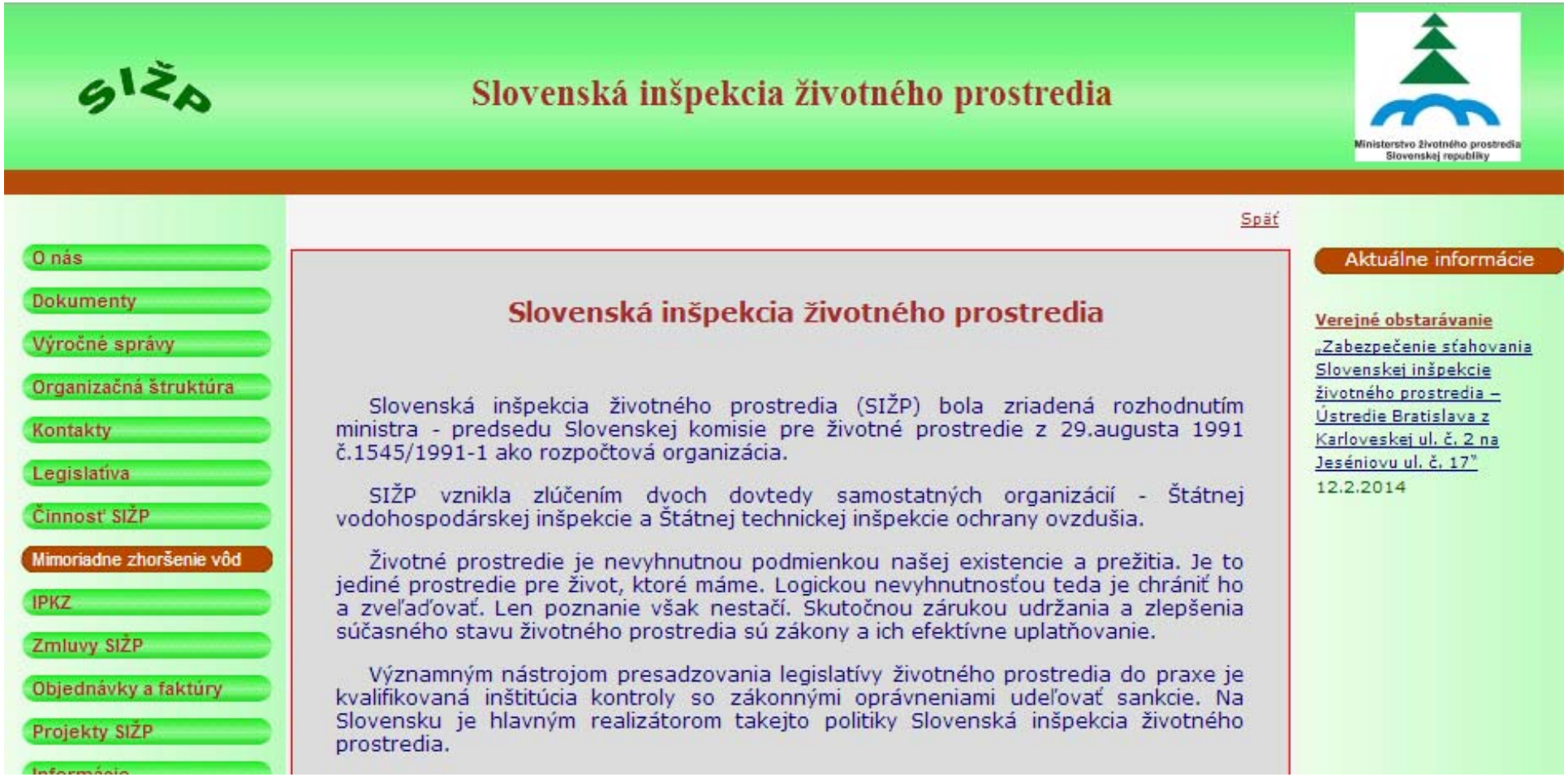

# Other Slovak Environmental Institutions

**http://nfp-sk.eionet.eu.int/institutions**

NFP Slovakia
Slovak Environment Agency

NFP-SK > Slovak Environmental ...

**Organisations within the branch of the Slovak Ministry of Environment**

- Ministry of the Environment
- Slovak Environmental Agency
- Management of National Parks
- Geology service
  WWW server of Geology service of SR
- Slovak hydrometeorological Institute
  WWW server of SHI providing information on weather, weather forecast, hydrology, climatology
- Management of Slovak Caves
  Basic information on Slovak caves
- ZOO
  Bojnice
- SIZP Slovak Inspection of the Environment
- SOPSR State Nature Protection

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PLEASE send any comments on this page to webmaster
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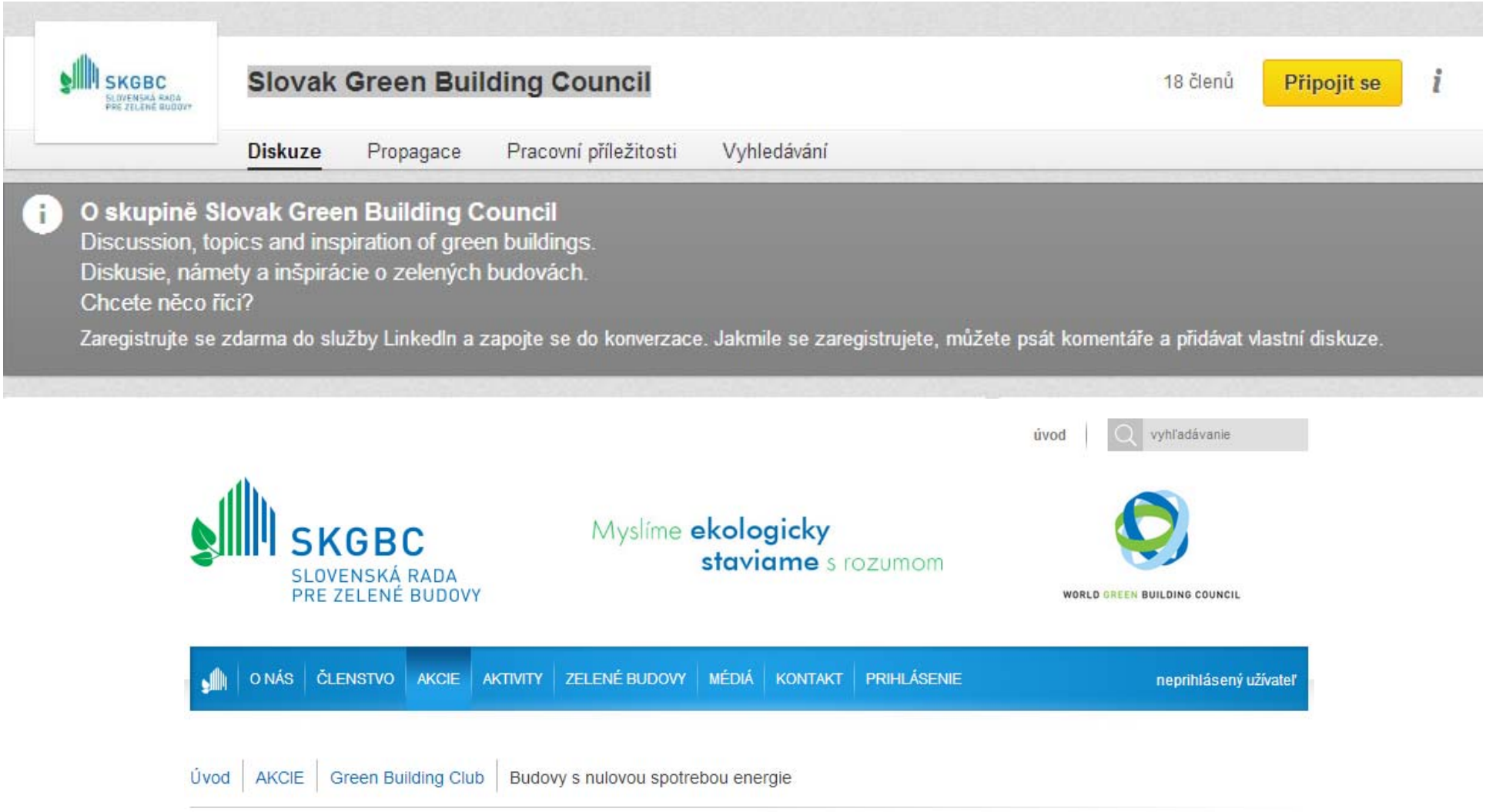
# Passive House Institute

http://iepd.sk/
http://www.passivehouse-international.org/index.php?page_id=77


# Slovak Green Building Council

**http://www.linkedin.com/groups/Slovak-Green-Building-Council-5072220**



# THANK YOU FOR YOUR ATTENTION