Enhancing Environmental Engineering Education in Eastern Europe

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The framework:

1. **TEMPUS - DG EAC**: International Cooperation & Environmental Engineering Education

**DEREC** Tempus *JEP* “Development of Environmental and Resources Engineering Curriculum” (2005 – 2008)

1. Specific results and outcomes


1. Specific objectives

**VICES** Tempus *JP* “Video Conferencing Educational Services” (2009 – 2012)

1. Videoconferencing vs Higher Education
2. **VICES** Videoconference network
3. **VICES** “scenarios” & Pilot activities

Conclusive Remarks and Future Developments
The TEMPUS Action

TEMPUS (TRANs-European MObilility Programme for UNIVERSITY Studies) is the European Union’s action which supports the Modernisation of Higher Education and creates an area of co-operation in countries surrounding the EU in 27 Partner Countries of Eastern Europe, Central Asia, the Western Balkans and the Mediterranean Region, mainly through University cooperation projects.

Firenze, ITALY; Skopje & Tetovo, FYR MACEDONIA; Thessaloniki, GREECE; Vienna, AUSTRIA; Bochum, GERMANY + Novi Sad SERBIA; + Tirana, ALBANIA.

Firenze & Rome, ITALY; Leuven, BELGIUM; Budapest, HUNGARY; Skopje, Bitola, Stip, Tetovo, FYR MACEDONIA; Serbian Research and Academic Network; Albanian Research and Academic Network.
the DERECE TEMPUS JEP project

2005-2008 TEMPUS JEP DERECE – Development of Environmental and Resources Engineering Curriculum at the Ss Cyril and Methodius University in Skopje (MK)

specific results

1. Development of a new, up-to-dated three year undergraduate curriculum at the Ss Cyril and Methodius University in Skopje (MK), based on the European Credit Transfer System and in accordance with the Bologna Process, aimed to establish the European Higher Education Area.

2. Fulfillment of the conditions necessary for offering a Joint degree title in Environmental and Resources Engineering to be implemented jointly on the basis of an agreement between the Ss Cyril and Methodius University in Skopje (MK) and the University of Firenze (IT).
The DEREL TEMPUS JP project

2010-2013 TEMPUS JP DEREL – Development of Environmental and Resources Engineering Learning at the Ss Cyril and Methodius University in Skopje (MK)

**specific objectives**

The project is aimed to develop new, up-to-date, postgraduate curricula in Environment and Resources Engineering at the Ss. Cyril and Methodius University in Skopje (MK), at the University of Novi Sad (RS) and at the Polytechnic University of Tirana (AL), based on ECTS and Bologna Process, following the conditions for setting up a Joint Postgraduate Degree.

Further objectives of the project are to develop and implement a sustainable regional DEREL network aimed at:

- offering **Lifelong Learning Seminars** at the DEREL Partner Countries for environment and resources engineering education and training of interested stakeholders (i.e. public services, enterprises, non-governmental organizations);
- strengthening the links in the knowledge triangle: **environmental education-innovation-research**, with participation of postgraduate students, public services, enterprises, and non-governmental organizations.
The “knowledge triangle”

Environment

Environmental Engineering Education

Engineering

Environment developments framework DEREC jep DEREL jp VICES jp developments
ViCES “Video Conferencing Educational Services”
15 January 2009 – 14 January 2012

modernisation of higher education and promotion of international co-operation

• Video conferencing involves two-way video, audio and data communication between two or more parties over a remote connection.

• The videoconferencing provides distance learning in universities and colleges.

• Through video conferencing technology, the universities provide access to classes to students from remote locations.
ViCES Video Conference Network

Locations of videoconferencing classrooms in Macedonia

Serbia

Albania

Tetovo

University centers

Local centers

Skopje

Greece

DEREC jep

DEREL jp

VICES jp

developments
**VICES pilot activities**

**WHY (added value):**
- To increase the cooperation among Skopje and Firenze Universities (already established in the TEMPUS DEREC - Development of Environment and Resources Engineering Curriculum Project (MK, IT, A, D, GR, BG)
- To give students the opportunity to *share educational expertise* with foreign colleagues.
- To *share experiences and case studies.*

**WHO (target group):** first level degree students of “Environmental Engineering”, Skopje and Firenze Universities.

**FRAMEWORK:**

*Degree course on Environmental and Resources Engineering, Ss. Cyril and Methodius University, Skopje – “Geographical Information Systems” (7 ECTS) module.*

*Degree course on Environment, Resources and Territory Engineering, University of Firenze, Firenze – “Environmental Information Systems” (6 ECTS) module.*
VC SESSION OF 25/11/2010

Florence remote site – Skopje local site

Framework
DEREC jep
DEREL jp
VICES jp
Developments
Conclusive Remarks and Future Developments

The TEMPUS VI - FUP 2012 experience - JobsICT

Main Project Outcomes - FUP 2012

- Applying ViCES Learning Methodology
- Non-Functional Requirements Recommendation
- Organizational Structure & Business Processes Recommendation
- Video-Conferencing Service Level Agreement Recommendation
- Sustainability Strategy
- Video Conferencing End Station Basic Tutorial

TEMPUS IV - Fifth call for proposal, 23 February 2012

JobsICT - Strengthening the link between education and labour market in ICT sector - Contribution to the National Qualification Framework (RS)

One student has obtained the title in Skopje on “Environment and Resources Engineering” and she is under the equivalence recognition procedure, i.e. "aequipollentia" – a “video session ceremony” will be organized.

Two students performed the 3rd year at UNIFI and are preparing the thesis in Skopje.

Two students are following the courses and preparing the exams at UNIFI.