

Goal:

Curriculum Development

Types of activities:

Development of a new curriculum on low-cost wastewater treatment; preparation of course literature and teaching materials; and delivery to postgraduate students

Duration: 36 months**Objectives:**

- Develop a teaching curriculum for new courses on low-cost wastewater treatment for MSc level students in Europe and Asia – First implementation of the curriculum in China and Vietnam
- Strengthen and enlarge existing partnership between partner institutions –Through the organisation of workshops, sanitation days and study tours - Signature of agreements between partner universities(signed in September 2007)

**Project development:****2006:** Develop curriculum**2007:** Improve and finalise curriculum – prepare teaching materials and implementation of curriculum**2008:** Implement curriculum**Coordinator****Prof. Dimitri Xanthoulis****Gembloux Agricultural University**2, Passage des Déportés, 5030 Gembloux
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Development of Teaching and Training Modules for Higher Education on Low-Cost Wastewater Treatment Contract VN/Asia-Link/12 (113128)

**November 2005 – November 2008**

**Belgium,
Denmark, Vietnam, and
China**

www.fsagx.ac.be/ha/asialink/

Curriculum Implementation

When: February to May 2008

Where: At HUCE and SWUST

How: 38 hours of teaching (including exercises) and two days of site visits

Who:

At SWUST: 10-15 Master students and 30 undergraduate students with good level of English, majoring in environment engineering, and Master student

At HUCE:

- Graduate students in Environmental Engineering of HUCE
- Graduate students in water supply & sanitation of HUCE
- Graduate students in Environmental Engineering of the Univ. of Architecture, Politec, water resources
- Some good undergraduate students (5th year) of other departments

Teachers:

At HUCE:

Prof. Tran Hieu Nhue
Prof. Tran Duc Ha
Dr. Leu Tho Bach

At SWUST:

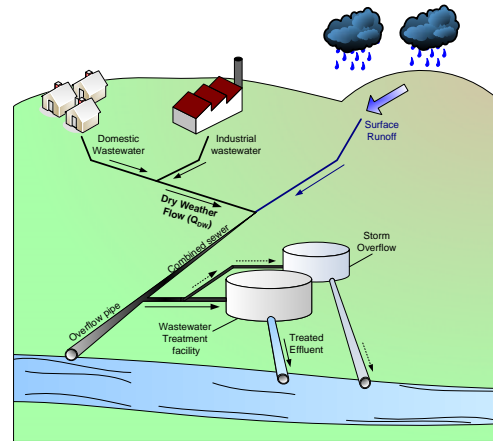
Prof. Zhang Qingdong
Ms. Shuai Zhifen

Contact:

Professor Zhang Zhigui at SWUST
Professor Leu Tho Bach at HUCE

Curriculum content

1. INTRODUCTION – GENERAL CONSIDERATION



2. DEFINITION OF LOW-COST TREATMENT SYSTEMS
3. COLLECTIVE PRE-TREATMENT REQUIREMENTS
4. COLLECTIVE PROCESSES
Wastewater stabilisation ponds
Wetlands



Intermittent sand filters
Evapotranspirative systems
Anaerobic processes

5. COLLECTIVE COMPLEMENTARY PROCESSES

Epuvalisation

Sand filters as complementary treatment

6. INDIVIDUAL PROCESSES AND TECHNOLOGIES

7. EXTENSIVE TECHNIQUES FOR SLUDGE TREATMENT

8. REUSE OF TREATED WASTEWATER



9. SLUDGE FOR AGRICULTURAL REUSE



10. FINANCIAL AND ECONOMIC ASPECTS

11. ENVIRONMENTAL IMPACT ASSESSMENT

12. LEGAL AND REGULATORY REQUIREMENTS

13. INSTITUTIONAL ASPECTS