Level: PhD				
Course title: Ecoengineering (advanced course)				
Status: elective				
ECTS: 15				
Requirements: none				

Learning objectives

Obtaining advanced knowledge and training students to work on the collection and processing of data about environmental pollution, the interpretation of data and processes and their understanding in order to design a wastewater treatment stream from production.

Learning outcomes

Improve knowledge of conventional, but also modern and new chemical and technological solutions in eco-engineering.

Syllabus

Theoretical instruction
With the goal of applying chemical engineering to environmental protection, student knowledge will be upgraded over the course of their studies in subjects such as thermodynamic aspects of multicomponent equilibria, equilibra between different phases: air-water, air-solid and water-solid, and the material energy balance in a particular environmental system, principles of designing reactors, mixing of fluids in containers and in certain environmental systems, principles of designing heterogeneous systems. The application of chemical-technological and biotechnological processes for the reduction of air, land and water pollution. Methodology for the design of systems for the protection of air, water, and systems for waste and recycling. Processing of data on the environment and ecoengineering for calculating material and energy balance for selected case studies.

Practical instruction
The design of certain types of system for the protection of air quality, water quality and the disposal and recycling of waste.

Weekly teaching load				Other:
Lectures: 5(75)	Exercises:	Other forms of teaching:	Student research: 5(75)	