Level: bachelor

Course title: Zero Waste Technologies

Status: elective

ECTS: 8

Requirements: none

Learning objectives

Training students for the comprehensive overview of the technological processes in terms of pollution prevention, waste minimization measures in the technological process of production as well as connecting material and energy flows in cyclical trends, to optimize the use of resources.

Learning outcomes

Students will understand the material and energy flows of production and be able to identify opportunities for improvement in accordance with the principles of waste free technology. They will learn about the reference documents on the best technologies available.

Syllabus

Theoretical instruction

Differences between traditional and "wasteless" technological processes. Definition and objectives of waste-free technology. Best available techniques (BAT) and the BREF documents: the production of energy, raw materials processing, metallurgy, mineral oil refineries and natural gas, mineral acids, alkalis, mineral fertilizers, alternative waste disposal, recycling, waste streams purification (flue gases, waste sludge).

Practical instruction

Practical instructions are in compliance with the theoretical ones.

Weekly teaching load				Other: /
Lectures: 3(45)	Exercises: 3(45)	Other forms of teaching: 1(15)	Student research: /	