

<b>Level:</b> Master				
<b>Course title:</b> Wastewater treatment process design				
<b>Status:</b> elective				
<b>ECTS:</b> 6				
<b>Requirements:</b> Technological processes in the control of water quality				
<b>Learning objectives</b> Gaining necessary knowledge and skills in designing problematic processes in wastewater treatment plants for the purification of waste water.				
<b>Learning outcomes</b> The student is able to demonstrate knowledge of the characteristics of waste water, process wastewater treatment and ways to design an appropriate wastewater treatment and purification plant to the required degree of wastewater purification (emission standards).				
<b>Syllabus</b> <i>Theoretical instruction</i> Origin of waste water. Characterization of wastewater. Emission standards for waste water. Analysis and selection of wastewater flows and loading elements. The choice of units in wastewater treatment, alternative processing lines (technology) for wastewater treatment. The conceptual design process and treatment plants for waste water treatment. The design phase of wastewater treatment: mechanical methods of treatment, the chemical purification process, biological treatment (processes with suspended microflora; processes with immobilized microflora; anaerobic processes); streamlined treatment processes, disinfection. The waste streams from wastewater treatment, their treatment and disposal. Aspects of plant operation (control and management; odour control, energy efficiency). <i>Practical instruction</i> Practical teaching follows theoretical lessons				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 2	Other forms of teaching:	Student research:	