

<b>Level:</b> Specialist studies				
<b>Course title:</b> <b>ADVANCED OXIDATION PROCESSES (Advanced Course)</b>				
<b>Status:</b> elective				
<b>ECTS:</b> 5				
<b>Requirements:</b> none				
<b>Learning objectives</b> Training students to expand knowledge in the field of advanced oxidation processes necessary to independently perform, select and apply appropriate processes in the environment.				
<b>Learning outcomes</b> Students acquire specialized knowledge about advanced oxidation processes, the mechanisms of oxidation of pollutants and identification of oxidation products, in order to independently carry out the selection and optimization of the corresponding process in order to protect the environment.				
<b>Syllabus</b> <i>Theoretical instruction</i> The most common advanced oxidation processes (AOP), their classification and mechanism of oxidative effects. The study of the mechanism of action of non-photochemical (ozonation at high pH values, Fenton and Fenton-like processes, O <sub>3</sub> /H <sub>2</sub> O <sub>2</sub> ) and photochemical (UV/H <sub>2</sub> O <sub>2</sub> , UV/O <sub>3</sub> , UV/H <sub>2</sub> O <sub>2</sub> /O <sub>3</sub> , photo-Fenton, photocatalysis-TiO <sub>2</sub> /hv / O <sub>3</sub> ) oxidation process for the treatment of water and soil contaminated with various organic and inorganic pollutants. Identification of specific degradation products. Application of advanced oxidation processes for the treatment of drinking water.  <i>Practical instruction</i> Practical instruction follows the theoretical instruction.				
<b>Weekly teaching load</b>				Other:
Lectures: 2 (30)	Exercises:	Other forms of teaching: 2 (30)	Student research:	