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| Level: bachelor | | | | |
| Course title: Air pollution | | | | |
| Status: elective | | | | |
| ECTS: 8 | | | | |
| Requirements: none | | | | |
| Learning objectives Introduction to the basic characteristics of the atmosphere and pollutants in the atmosphere. Understanding the processes occurring in the atmosphere. Mastering the standard methodology for the monitoring and control of air pollutants in order to evaluate air quality. | | | | |
| Learning outcomes Students should be able to define and explain the composition and characteristics of the atmosphere, state, explain and analyze the major air pollutants, specify and explain macro effects of air pollution; specify the most significant sources of air pollution, process and interpret the results of analysis and report the analysis that was performed; solve computational tasks related to air quality. | | | | |
| Syllabus <i>Theoretical instruction</i> Composition and properties of the atmosphere. Vertical profile of atmospheric temperature and pressure. Temperature inversions. Sources and geochemical cycles of natural components of air. The study of the major air pollutants: particulate matter, sulfur compounds, nitrogen oxides and carbon, volatile organic compounds, photochemical oxidants, lead, chlorine, fluoride, asbestos. Introduction to natural and anthropogenic (stationary and mobile) sources of air pollution. Basic chemical processes in the atmosphere. Sources and consequences of the presence of ozone in the troposphere. Sources and characteristics of aerosols in the atmosphere. Macro effects of air pollution: acid rain, ozone depletion, the effect of "greenhouse" effect and climate change. <i>Practical instruction</i> Practical instruction follows the theoretical one. | | | | |
| Weekly teaching load | | | | Other: |
| Lectures: 3 (45) | Exercises: LV 2 (30) | Other forms of teaching: 1 (15) | Student research: | |