



FACULTY: ENVIRONMENTAL ENGINEERING

COURSE TITLE: State of the art in water and wastewater analyses

Number of contact hours: 30

Duration: 1 semester (spring)

ECTS credits: 4

Programme description: Students will get familiar with problems of water and wastewater quality estimation, get competences in assessment of water and wastewater treatment processes, and learn bases of instrumental analyses. Specific problems discussed during lectures, workshops and seminars will cover

- Introduction to a measuring system and repartition of analytical methods
- Instrumental analyses methods: conductometry, pH, redox potential, ion selective electrodes, VIS and UV spectrophotometry, inductively coupled plasma, gas and liquid chromatography, mass spectrometry, specific methods, total organic carbon
- Technological test of wastewater characteristic: AUR, NUR, PRR
- Methods of data evaluation
- Use of modern analytical methods in water and wastewater treatment process control
- Legal aspects of analytical demands

Course type (hours): lectures (15), exercises and labs (15)

Literature: Loconto P. R.: Trace Environmental Quantitative Analysis, CRC Press 2006
Hocking M. B.: Chemical technology and Pollution Control, Elsevier, 2005
Dojlido J. Zerbe J.: Instrumentalne metody badania wody i ścieków, Arkady, Warszawa, 1997
Dojlido J.: Chemia wody, Arkady, Warszawa, 1998

Assessment method: test (60%) and laboratory work and report (40%)

Lecturer: dr Przemysław Kułakowski