



SUBJECT DATASHEET

Semester:	2010/11/2
Subject:	Environmental Organic Chemistry
Code:	VEMKOKM112K
Responsible department:	Department of Organic Chemistry
Responsible department code:	MKOK
Responsible lecturer:	Dr. Szilárd Tőrös

Educational objectives:

The students will be capable to identify the organic chemical pollutions, potential environmental hazards, assessing the environmental damage prevention.

Detailed content of the subject:

The reasons of chemophobia, the consequences of it and its appearance in the society. The change of approaches in education, in research and in realization of practice. The 12 principles of the sustainable development of the chemical industry. Environmental quotient and atom efficiency. Types of environmentally sound organic chemical reactions. Examples: synthesis of adipic acid, hydrolysis of fats and vegetable oils. Ionic liquids as environmentally sound solvents. Microbiological degradation of some typical organic impurities. Specially dangerous substances: Hard drugs, poisons, explosives, chemical weapons. Chemical catastrophes and its mitigations.

Requirements:

Written test.

Required and suggested references:

P. T. Anastas, J. C. Warner: Green Chemistry: Theory and Practice, Oxford University Press, Oxford, 1998. Beck Mihály: A kémia és társadalom, Magyar Tudomány, 2002 (12) 1636. Tungler Antal: Zöld kémia és környezeti katalízis, BME, 2005. Barótfi István: Környezettechnika, Mezőgazda Kiadó, Budapest, 2003. (Kempelen Farkas Digitális Tankönyvtár). Réti Tamás, Tungler Antal, Tőrös Szilárd: Ipari technológiák és szennyezéseik, digitális tankönyv, HEFOP 3.3.1.-P-2004-09-0152, (2007). P. T. Anastas, M. M. Kirchoff: Acc. Chem. Res. 2002 (35) 686.