Course Description: Environmental Chemistry

Department	Industrial Engineering
Degree programme	• Environmental Technology & Development • Environmental Technology
Module name	Environmental Chemistry
Module number	WI-B.322
Compulsory/ optional/ elective module	Compulsory module
Module coordinator	Prof. Dr. Christoph Koch
Learning objectives	The fundamental aim is to teach knowledge about substances related to environmental problems in air, water and soil in interaction with living matter especially humans. The considerations are focussed on the behaviour, toxicity and sources of the contaminants. Knowledge will be improved in seminars with examples and calculations and used in laboratory experiments.

Module content	• introduction (reaction, partition, limits)
	• air pollution – sources and impacts
	• water – pollutants and description
	• selected xenobiotics:
	  - PCB, dioxines, pesticides
	  - heavy metals
	• soil – properties and interactions

Course type (lecture, exercises, seminar, practical course)	2L - 0E - 1S - 1P
Recommended literature	/1/ Bliefert: Umweltchemie /2/ Alloway/Ayres: Schadstoffe in der Umwelt – Chemische Grundlagen. /3/ Koß: Umweltchemie – Eine Einführung für Studium und Praxis
Learning materials	Overhead copies on request
Method(s) of instruction/ media being used	• lecture + self-study • exercises with calculations • practical labwork
Level/ category	Bachelor
Which semester (winter/ summer term)	Winter term
Which semester during the programme	3rd. semester
Requirements for attendance	• basics in chemistry • thermodynmics/physical chemistry
Assessment (written/ oral test, paper,	alternative examination: tests

etc.)	
ECTS credits	6
Work load in:	60 h of contact hours 120 h of self-study
Usability of this module	• Environmental Technology & Development • Environmental Technology
Frequency of offer	yearly
Duration of module	1 semester
Place/ room	EAH Jena
Time	According to schedule
Language(s)	English