**Course Description: Environmental Chemistry**

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| **Department** | Industrial Engineering |
| **Degree programme** | • Environmental Technology & Development<br>• Environmental Technology |
| **Module name** | Environmental Chemistry |
| **Module number** | WI-B.322 |
| **Compulsory/ optional/ elective module** | Compulsory module |
| **Module coordinator** | Prof. Dr. Bernd Rudolph |
| **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)<br>• air pollution – sources and impacts<br>• water – pollutants and description<br>• selected xenobiotics:<br>  - PCB, dioxines, pesticides<br>  - heavy metals<br>• soil – properties and interactions |
| **Course type (lecture, exercises, seminar, practical course)** | 2L - 0E - 1S - 1P |
| **Recommended literature** | /1/ Bliefert: Umweltchemie<br>/2/ Alloway/Ayres: Schadstoffe in der Umwelt – Chemische Grundlagen.<br>/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<br>• exercises with calculations<br>• 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<br>• thermodynmics/physical chemistry |
| **Assessment (written/ oral test, paper,** | alternative examination: tests |

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