

ECOTOXICOLOGICAL ASPECTS OF GEOECOLOGY

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Abstract:

Nowadays more than 100,000 chemicals are used by the society on the daily basis. What's more, tens of new chemicals are discovered every day. Some of those substances are released into environment, causing ecological damage and risk to human health. This is the price that we pay for extreme social benefits. The lecture of Ecotoxicology deals with the influence of the industrial and agricultural development on various environmental compartments (water, air, soil, flora and fauna).

In this course students will learn about the existing and emerging chemicals. Furthermore, the importance of multidisciplinary aspects of Ecotoxicology together with significant terminology, will be elaborated. Additionally, fate of chemicals, including distribution, exposition, uptake, and metabolism pathways will be explained. Particular attention will be paid to common and novel methods for analysis of environmental matrixes and toxicological essays. Finally, practical aspects of environmental chemicals management will be presented based on the international scientific projects.

Lecture:

- Introduction of Ecotoxicological Aspects of Geoecology
 - Goals and Definition of Ecotoxicology
- Contaminant Sources & Effects
 - Classification of pollutants
 - Emerging contaminants
- Fate of Chemicals
 - Processes of contaminants
 - Metabolism of contaminants
- Methods in Ecotoxicology
 - Biomonitoring
 - Environmental analytics
 - Toxicity studies
- Case Study: Former Manufactured Gas Plant Site
- Case Study: Conventional vs. Organic Farming

Literature:

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Dickinson, G. & Murphy, K. 1997, Ecosystems. A Functional Approach, Routledge Introductions to Environment, ISBN: 0- 203-13248-3

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Walker, C. H., Sibly, R. M., Hopkin, S. P., Peakall, D.B., (2012): Principles of Ecotoxicology -4th ed., Boca Raton: CRC Taylor & Francis.

Fent, K. (2007): Ökotoxikologie. Umweltchemie - Toxikologie- Ökologie. 3. Auflage. Stuttgart, New York: Thieme.

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McBride, M. B. (1994), Environmental chemistry of soils. Oxford University Press

Termin	Dzień tygodnia	Godzina	Miejsce
15.03.2022	Wtorek	8.15 – 12.00	Minicentrum Konferencyjne WCh (Luwr)
17.03.2022	Czwartek	9.15 – 11.00	Minicentrum Konferencyjne WCh (Luwr)
18.03.2022	Piątek	9.15 – 11.00	Minicentrum Konferencyjne WCh (Luwr)
21.03.2022	Poniedziałek	9.15 – 11.00	Minicentrum Konferencyjne WCh (Luwr)
23.03.2022	Środa	9.15 – 12.00	Minicentrum Konferencyjne WCh (Luwr)
24.03.2022	Czwartek	9.15 – 11.00	Minicentrum Konferencyjne WCh (Luwr)