



MOBI-US course on

## Contaminated site remediation and risk assessment

In the frame of  **Erasmus+ Blended Intensive Program!**

The Blended Intensive Program (BIP) is a new form of mobility within the frame of the Erasmus+. During the BIP, a group of students will undertake a short-term physical mobility abroad combined with a compulsory virtual component facilitating collaborative online learning.

In the form of an Erasmus+ BIP, the **University of Miskolc** organizes a course for MOBI-US partners and other partner universities on **Contaminated site remediation and risk assessment**.

The course is recommended for **MSc Students in environmental engineering, civil engineering, and applied earth science, mining engineering related programs**, who are interested in contaminated site remediation.

The course is for **3 ECTS** and consists of two parts. During the summer semester of 2022, **online lectures** will be given in **three-times four hours units** (Class 1-3). The semester course continues by the **intensive 5-days onsite session at the University of Miskolc between 13-17 June 2022**.

### Program of the online part during the summer semester:

#### Class 1:

- Setting the stage, context of contaminated site remediation
- Historical overview of site remediation
- The process of site remediation
- Site Investigation on contaminated land

#### Class 2

- Health risk assessment in the remediation process
- generic vs site specific approach
- HHRA methodology
- Critical evaluation of site-specific risk-based remediation

#### Class 3

- Type and behaviour of contaminants in the subsurface environment
- Remediation methods and aspects of their selection;

- Monitoring activities;

## Program of the Intensive part at the University of Miskolc and the fieldtrips in NE-Hungary

- Day 1: classroom exercise: site investigation and contaminated plume delineation (computer modelling class)
- Day 2: classroom and laboratory exercise: understanding the case-study site
- Day 3-4: Field trip and on-site activities; understanding the environmental stresses of a former, abandoned ore mine in NE-Hungary;
  - the history of mining activity – environmental issues: tailings and acid rock drainage (ARD) management;
  - ARD treatment technology (site visit, measurements),
  - mine tailings disposal – operation and risks,
  - post closure activities and their environmental impacts.
- Day 5: wrap up and evaluation

### Professors:

**Course leader:** Dr. Tamás Madarász, head of Institute of Environmental Management



Tamás is an associate professor, responsible for the Environmental Engineering MSc program. His main field is environmental geology, contaminated site remediation and environmental and human health risk assessment. Besides his teaching activity he is responsible for several international research projects and is involved in RDI activities related to applied earth science.

### Participation:

Students shall register in the following link and **parallel submit an application to the Erasmus Office at the home university.**

Registration link: <https://forms.gle/BVVWwqyEfiVbjFQH8>

To participate in the BIP, students should get from their sending institution mobility grant. Individual support is €70 per day and travel grant based on distance-band.

### Registration:

Registration deadline: 21 March for the course, however, please take care the Erasmus+ application deadline at the home university!