



LIFE20 CCA/HU/001604

<https://lifelogos4waters.bm.hu>

Summer School in frame of the LIFE LOGOS 4 WATERS project Curriculum

Organiser: UNIVERSITY OF PUBLIC SERVICE, Faculty of Water Sciences

Prepared by: Dr. Enikő Anna Tamás, professor
György Varga, technical teacher

Locations: CAMPUS: H-6500 Baja, Bajcsy-Zs. u. 12-14.;

Google maps link:

<https://www.google.hu/maps/place/NKE+EKKL+V%C3%ADztudom%C3%A1nyi+Kar+Kari+K%C3%B6nyvt%C3%A1r/@46.1806659,18.9353996,337m/data=!3m1!1e3!4m5!3m4!1s0x47431ffafe8a7091:0x66de6ded70bf9ca5!8m2!3d46.1809215!4d18.9390725>

FIELD STATION „Lászlóffy Woldemár”: H-7332 Magyarereggy, Várvölgyi u.

Google maps link:

<https://www.google.hu/maps/place/E%C3%B6tv%C3%B6s+J%C3%B3zsef+F%C5%91iskola+Hidrometriai+Telepe/@46.2331105,18.3086614,281m/data=!3m2!1e3!4b1!4m5!3m4!1s0x4742bd20a9760ee9:0xce5a7222ec277805!8m2!3d46.2331086!4d18.3097753>

Changes in locations according to the project progression can be expected but will be announced beforehand.

The exact dates of the Summer School will be announced in February.

Background:

The need for climate and flood risk resiliency has induced changes in water policies in Europe and thus new challenges in water resources management are arising. Integrated approach and basin-scale, cross-border harmonized water management policies must prevail, and in order to achieve the basin-wide goals, attitudes towards floods and droughts have to be changed, as the importance of Nature-based Solutions is quickly emerging.

LIFE LOGOS 4 WATERS project aims to contribute to the achievement of these goals. We created this Summer School in order to meet the recognized need for the improvement of water-related education. Our Faculty strives for the use of state-of-the-art technologies in day-to-day monitoring, and for the widest possible application of novel surveying, evaluation and design techniques.

Topics:

The Summer school consists of classroom lectures, field measurements and processing of measurement results, including theory and practice of catchment hydrology processes from small to large scale, for the investigation of runoff from the watershed. Participants will have hands-on field experience in surveying river morphology and discharge as well, in service of the design of Nature-based Solutions.



**Instructors:**

Apart from the teaching staff of the Faculty of Water Sciences, guest lecturers are going to be invited from the General Directorate of Water Management (OVF), from regional Water Authorities and other partner organizations as well as from international institutions.

Participation:

Participation is highly recommended for Civil, Environmental and Water Operation engineering students with water-related specializations, but is limited to 20 students at a time.

Detailed Summer School course outline

| Day | Approximate duration | Topics |
|-------|----------------------|---|
| Day 1 | 1 h | Introductory lecture on the purpose of the Summer School |
| | 1 h | Introductory lecture on Nature-based Solutions and their importance |
| | 1 h | Introduction of participants (students and lecturers) |
| | 1 h | Lecture on labour safety and security |
| | 2 h | Theoretical instruction (hydrology) |
| | 2 h | Theoretical instruction (surveying) |
| Day 2 | | Theoretical instruction: field measurement techniques in service of the design processes of Nature-based Solutions. |
| | 2 h | Part 1: Hydro-geodesy |
| | 2 h | Part 2: Hydrometry |
| | | Travel to the field measurements' location |
| Day 3 | 4 h | Equipment introduction, basic practical measurements at the field station (velocity/discharge measurement with different methods, measurements of precipitation, infiltration and surface runoff, soil moisture determination, sediment sampling and analysis) |
| | 4 h | Processing and evaluation techniques of the results of the measurements of the day, elaboration of technical descriptions and protocols |
| Day 4 | 4 h | Measurements for hydrological longitudinal profile of the discharge of a creek, including morphological measurements (Cross-sections) with traditional and modern technology, junction measurements (walking distance: ~6km), introduction to water-related monitoring techniques |
| | 4 h | Processing and evaluation techniques of the results of the measurements of the day, elaboration of technical descriptions and protocols |
| Day 5 | | Travel to the campus in Baja |
| | 4 h | Measurements with Acoustic Doppler Current Profiler (ADCP), and sonar technology |
| Day 6 | 2 h | Finalization of the documentations and technical descriptions |
| | 6 h | Discussion and presentation of the results, evaluation of the Summer School activities. Official closing. |

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Changes in course outline and the guest instructors can be expected according to the project progression but will be announced beforehand.

10/12/2022 Baja, Hungary