| **1. Course title:** Hydrogeography | | | | |
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| **2. Code:** | | **3. Type (lecture, seminar, laboratory):** laboratory | | |
| **4. Total of contact hours:** 43 hours | | **5. Number of credits (ECTS):** 4 | | |
| **6. Pre-requisites (max. 3):** none | | | | |
| **7. Announced:** ☐ autumn semester, ☒ spring semester, ☐ both semesters | | | | |
| **8. Limit for participants:** no | | | | |
| **10. Instructor-in-charge (faculty, institute and department):**  József DEZSŐ, PhD (FS, Institute of Geography, Department of Physical Geography and Environment) | | | | |
| **11. Instructor(s) and percentage:** | | József DEZSŐ | | 90% |
| Szabolcs CZIGÁNY | | 10% |
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| **12. Language:** English | | | | |
| **13. Course objectives and learning outcomes:**  The course combines theoretical and experimental elements aimed at  providing practical experience in the measurement and analysis of hydrological processes;  methods of analysis applicable to solving practical problems related to environmental, land use, low input management problems. Aims:  1. To provide an understanding of the water cycle  2. To provide a quantitative discussion of water bodies  3. To apply water concepts to contemporary problems in water resources management  This course familiarizes students with selected hydrological measurement and analytical techniques. Learning outcomes: Students are going obtain skills on different kind of investigation procedures. | | | | |
| **14. Course outline / Milestones**  Week 1 Lesson: History of hydrogeography  Practice: OSH (occupational, safety and health) training, handling documentation and storage of the water samples  Week 2 Lesson: classification of water bodies  Practice: evaluation water quality categories  Week 3 Lesson: distribution of precipitation and catchment areas  Practice: measuring and evaluating precipitation  Week 4 Lesson: vapour concentration  Practice: measurement of water vapour concentrations  Week 5 Lesson: theory of transpiration  Practice: measurement of transpiration  Week 6 midterm exam  Week 7 Lesson: evapotranspiration  Practice: measurement of evapotranspiration  Week 8 Lesson: soil moisture, the WRC curves  Practice: measuring of the saturated soil moisture content, capillarity  Week 9 Lesson: measurement of water potential  Practice: measuring unsaturated liquid flows  Week10 Lesson: calculating in situ subsurface flow, infiltration  Practice: measurement of subsurface flow, infiltration (field exercises)  Week 11 Lesson: Water stage/level measurements. The concept of Hydraulic head. Evaluating time series data  Practice: measuring water levels  Week 12 Flow measurement of water courses I. (field exercises)  Week 13 Determine water balance, volume at lake. (field exercises)  Week 14 Final exam | | | | |
| **15. Mid-semester works**  Writing laboratory and field reports | | | | |
| **16. Summative assessment, formative assessment**  Evaluation is based on homework and lab report points (30%), one midterm exam (30%) on week 8 and one final written exam at the end of the semester (40%); Exams: both theory and calculations. Calculator and equation card (prepared individually by the students) are required. Grading percentages may vary according to the position of the Gauss curve, but the approximate ranges are the followings:  0 to 49.99%: 1  50.00 to 64.99%: 2  65 to 79.99%: 3  80 to 89.99%: 4  90+ : 5 | | | | |
| **17. Reading assignments:**  [1] Tim Davie (2002): Fundamentals of Hydrology. Routledge Fundamentals of Physical  Geography. Routledge, Taylor and Francis Group, London and New York. 2nd ed.  [2] Flury, M. (2011) Soil physics laboratory manual Department of Crop and Soil Sciences  Washington State University, Pullman, WA 99164 | | | | |
| **18. Recommended texts:** | | | | |
| **Date** | 10. December, 2017 | **Prepared** |  | |
| József DEZSŐ PhD  instructor-in-charge | |
| **Endorsed** | | |  | |
| András TRÓCSÁNYI PhD leader of the program | |