

Module Name	1.2 Hydrology and Climatology
Identification code	AEF278, EM1.2, EH-CAU405 (QIS-registration for examination) 71200
Subtitle	
Courses embedded	
Term	Winter
Coordinator	Prof. Dr. N. Fohrer
Teachers	Basics of hydrology : Prof. Dr. N. Fohrer Basics of climatology: Dr. Baese
Tuition language	English
Programme involvement	Elective MSc Environmental Management, Elective MSc Ecohydrology BSc Geography
Teaching form, contact time per week	Basics of hydrology: formal lecture (20 h/60 h), practical (10 h/30 h) Basics of climatology: formal lecture (20 h/60 h), practical (10 h/30 h)
Workload overall	180h
Contact time	60h
ECTS credit points	6
Preconditions prescribed	
Prerequisites recommended	
Learning outcomes	Hydrology: Students understand the basics of the hydrologic cycle and are able to interpret the effectivity of different measures and processes as well as the impact of anthropogenic interferences. Climatology: Students understand the basics of climatologic processes and their influence on the local microclimate. Students are able to calculate radiation – and thermal balances for different locations The practical part of this module teaches students to use publicly available data sources.
Content	Principles of Hydrology: History of hydrology, water as a substance, water cycle, water balance equation, climatic input parameters, energy budget, evapotranspiration, soil water budget, rivers, groundwater, examples, calculations to quantify water budget, water quality, drinking water, waste water, treatment, irrigation Principles of Climatology: heat balance, radiation balance, evaporation, transpiration, formation of local and regional microclimate.
Assessment	Oral 100%
Teaching media	
References	Online lecture notes: OLAT RC Ward & M. Robinson, 2000: Principles of hydrology. Mc Graw Hill, 4th edition.450p. T. Davie, 2002: Fundamentals of hydrology. Routledge Fundamentals of physical geography.169p.
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