Groundwater Hydraulics

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Module number	Credits	Workload	Semester[s]	Duration	Group size
SE-C-4	5 CP	150 h	1. Sem.	1 Semester[s]	no limitation

Courses	Contact hours	Self-study	Frequency
a) Groundwater Hydraulics	a) 4 WLH (60 h)	a) 90 h	a) each winter

Module coordinator and lecturer(s)

PD Dr. Thomas Heinze

a) PD Dr. Thomas Heinze

Admission requirements

Learning outcome, core skills

After completion of this module, the students will

- be able to describe and evaluate groundwater flow and conservative mass transport in the subsurface.
- know methods of experimental investigation and determination of hydraulic parameters under different boundary conditions, and can derive and evaluate these mathematically.
- be familiar with the evaluation and interpretation of groundwater hydraulic parameters and use them to deal with classical hydrogeological problems.

Contents

a)

- Methods for the collection and evaluation of hydraulic parameters (Darcy-tests, pump tests, Slug&Bail tests)
- Conveyance of knowledge about groundwater flow and the construction of groundwater level plans
- Execution and evaluation of pumping tests by means of graphical and analytical solutions
- Practical tasks for lowering the groundwater level through well systems in excavation pits or calculation of well yield

Educational form / Language

a) Tutorial (2 WLH) / Lecture (2 WLH) / English

Examination methods

• Written exam 'Groundwater Hydraulics' (60 min., Part of modul grade 100 %)

Requirements for the award of credit points

- Passing the written examination

Module applicability

- M.Sc. Subsurface Engineering
- M.Sc. Geosciences

Weight of the mark for the final score

Percentage of total grade [%] = 5 * 100 * FAK / DIV

FAK: The weighting factors can be taken from the table of contents.

DIV: The values can be taken from the table of contents.

Further Information

- Relevant literature and specific study material will be supplied at the beginning of the lectures.