

**Proposed schedule NGE006F, PhD-course LU: Hydrogeological Conceptual Models for Groundwater Use and Protection. Characterisation methods and scaling considerations**

March 2023

Day	Date	9.00-10.30	10.30-	10.45-12	Lunch	13.00-14.30	14.30-	14.45-16.15	
wed	15	Lecture Intro Parker/ Sparrenbom The course and the task and the workshop	Paus	Lecture R. Barthel Gravitational flow system behaviour, estimating recharge and discharge	lunch	Lecture B Parker/ Novel characterization and characterisation of flow system	Paus	Lecture B Parker/High resolution core logging, interpretation and insights, MLS building	
thur	16	Lecture Erik B and B. Parker/ into field site and info on field visit	Paus	Lecture Lars Rosén Geosystem services and risk uncertainty and decision making	lunch	Lecture Sparrenbom Head data, transducers and multi- level concept	Paus	Lecture Kennel - collection of the data/Protocols using deconvolution methods (using R)	Lecture Chapman - Purging and sampling (40 min)
fri	17	Räven fieldsite		Beth Parker and G360 team		Chapman, Kennel and Kroeker			8.00-17.00
Sat & Sun									

	Date	9.00-10.30	10.30-	10.45-12	Lunch	13.00-14.30	14.30-	14.45-16.15
<b>mon</b>	20	Lecture B Parker/ Hydrogeological system contaminant transport	Paus	Lecture P. Wanner - Emerging Contaminants	lunch	Lecture B Parker/ Novel characterization		Lecture Lea Levy State-of-Science Surface Geophysics for groundwater research
<b>tue</b>	21	Lecture Pete PHEME Downhole geophysics	Paus	Lecture Norman/ Remediation and social sustainability (gentel remediation) Räven	lunch	Lecture Wanner/ CSIA	Paus	Lecture JE Rosberg Scientific drilling case studies and know how - Swedish Scientific drill rig
<b>wed</b>	22	Exercise Kennel analysis of the data using deconvolution methods (using R)		Lecture Fritjof Fagerlund remediation techniques		Lecture Carolina Suarez Microbe investigation i groundwater		Lecture B Parker/ updated SCM ito inform remediation decision remediation

thu	23	Data analyses	Paus	Lecture B Parker/ concluding Råven	lunch	Lecture Kenneth Persson Vomb infiltration, geochemical considerations		Lecture Bo Olofsson, Fractured rock transport on multiple scales	
fri	24	Lecture Sparrenbom/ Pumping tests and Site characteriation Revinge	Paus	Lecture Auli Niemi Modelling and characterization of geological storage of CO2 in deep aquifers	lunch	Lecture and Exercise: Rosberg Evaluation of Pumping tests and use of Aqtesolve	Paus	Lecture B: Parker FLUTE technology	
sat									
Sun									
<b>Day</b>	<b>Date</b>	<b>9.00-10.30</b>	<b>10.30-</b>	<b>10.45-12</b>	<b>Lunch</b>	<b>13.00-14.30</b>	<b>14.30-</b>	<b>14.45-16.15</b>	
mon	27	Visit at Revingen field							8.00-17.00
tue	28	Visit at Revingen field							8.00-17.00
wed	29	Data analyses and preparation for workshop	Paus	Data analyses and preparation for workshop	lunch	Data analyses and preparation for workshop	Paus	Data analyses and preparation for workshop	
thur	30	Data analyses and preparation for workshop	Paus	Data analyses and preparation for workshop	lunch	Data analyses and preparation for workshop	Paus	Data analyses and preparation for workshop	
fri	31	All day workshop/seminar	Paus		lunch		Paus		
<b>Start Eastern holiday</b>									

Sometime after - Turn in short report ca 2 days work (required as stated in course plan)