

Cours	Enseignants	★ S1	🌱 S2	★ S3	🌱 S4	Examen	Crédits	
Master of Science in Hydrogeology and Geothermics								TOTAL 120
Introductory courses								TOTAL 8
Introduction to hydrogeology and hydrology	P. BRUNNER	30pg						
Introduction to geothermics	S. MILLER	20pg				écrit	8	
Mathématiques et statistique	P. PERROCHET P. RENARD	30pg						
Processes in hydrogeology and geothermics								TOTAL 12
Hydrodynamique souterraine	P. PERROCHET	40pg				écrit	6	
Processus de transport	P. PERROCHET	20pg						
Hydrochemical and microbial processes	D. HUNKELER S. WIRTH	40pg				écrit	4	
Rock and earthquake mechanics	S. MILLER	20pg				écrit	2	
Water-earth systems								TOTAL 10
Alluvial aquifer systems: from quaternary geology to surface water-groundwater interactions	P. BRUNNER D. HUNKELER M. SCHIRMER S. WIRTH	40pg				controle continu	4	
Systèmes aquifères fissurés et karstiques	P. Jeannin B. VALLEY	40pg				controle continu	4	
Field camp I	S. WIRTH	4j				controle continu	2	
Site/resource characterisation								TOTAL 13
Forages, tests hydrauliques, traceurs naturels et artificiels	D. HUNKELER P. RENARD B. VALLEY	60pg				controle continu	6	
Geophysics and remote sensing	P. BRUNNER S. MILLER	40pg				controle continu	4	
Field camp II	P. BRUNNER D. HUNKELER P. PERROCHET	6j				controle continu	3	
Modelling I								TOTAL 8
Modélisation des réservoirs	P. BRUNNER P. RENARD	40pg				controle continu	4	
Modélisation des écoulements et des processus de transport	P. PERROCHET	40pg				controle continu	4	
Engineering and resource exploitation								TOTAL 9
Systèmes géothermiques peu profonds	V. BADOUX	20pg				controle continu	2	
Deep energy resources	S. MILLER B. VALLEY	30pg				controle continu	3	
Water supply and water treatment	P. BRUNNER	20pg				controle continu	2	
Ingénierie géotechnique	L. TACHER	20pg				controle continu	2	
Modelling II								TOTAL 9
Numerical modelling of hydrochemical processes	D. HUNKELER	20pg				controle continu	2	
Numerical modelling of geomechanical processes	S. MILLER	30pg				controle continu	3	
Géostatistique et modélisation inverse	P. BRUNNER P. RENARD	40pg				controle continu	4	
Resource management								TOTAL 13
Water resource management in the European context	P. BRUNNER D. HUNKELER	20pg				controle continu	4	
Water resource management in semi-arid/arid regions and in humanitarian contexts	P. BRUNNER	20pg						
Groundwater pollution and remediation	D. HUNKELER	30pg				controle continu	5	
Urban hydrogeology	M. SCHIRMER	20pg						
Geothermal resources in the European context and worldwide	S. MILLER B. VALLEY	20pg				controle continu	4	
Economical, political and societal aspect of geothermics	S. MILLER B. VALLEY	20pg						
Master thesis preparation and Master thesis research								TOTAL 38
Literature review, scientific writing and master project proposal	P. BRUNNER D. HUNKELER S. MILLER P. PERROCHET P. RENARD B. VALLEY	80pg				controle continu	8	
Master thesis research					300pg	controle continu	30	