

## Suggested learning paths Specialisation A - Hydrology and Water Resources

Compulsory course
Compulsory specialization course
Specialization courses (at least 2 required)
Recommended free choice course

### Ecohydrology (thesis SLM)

		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
<b>MSc 1</b>	<b>MO</b>	YWU-30306 Interdisciplinary Topics in Earth and Environment	HWM-33306 Coastal Oceanography and Delta Geology OR SLM-30806 Land Degradation and Development OR INF-22306 Programming in Python OR WSG-35306 Modelling Future Water Stress	HWM-33806 Water and Air Flow Numerical Techniques	MAQ-35306 Urban Hydrometeorology OR SLM-31306 Fundamentals of Land Management OR GRS-33306 Spatial and Temporal Analysis for Earth and Environment OR WSG-34806 Climate Change Adaptation in Water Management OR AEW-31306 Water Quality	HWM-32806 Catchment and Climate Hydrology	YMC-60809 Academic Consultancy Training
	<b>AF</b>	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Ecohydrology			GRS-20806 Geo-information tools OR WSG-60812 Design of Climate Change Mitigation Strategies OR GRS-32306 Advanced Earth Observation	

### Hydrological Modelling and Global Change; Operational Water Management; Hydrometeorology (thesis HWM)

		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
<b>MSc 1</b>	<b>MO</b>	YWU-30306 Interdisciplinary Topics in Earth and Environment	HWM-33306 Coastal Oceanography and Delta Geology OR INF-33806 Big Data OR INF-22306 Programming in Python OR MAQ-32306 Boundary-Layer Processes	HWM-33806 Water and Air Flow Numerical Techniques	MAQ-35306 Urban Hydrometeorology	HWM-32806 Catchment and Climate Hydrology	SLM-33306 Advanced Hydrological System Analysis* OR WSG-60812 Design of Climate Change Mitigation Strategies OR YMC-60809 Academic Consultancy Training
	<b>AF</b>	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Ecohydrology OR GRS-20806 Geo-information tools		MAQ-35306 Urban Hydrometeorology	HWM-30306 River Flow and Morphology OR Start thesis OR GRS-20806 Geo-information tools OR WSG-60812 Design of Climate Change Mitigation Strategies OR INF-32306 Software Engineering OR GRS-32306 Advanced Earth Observation	

\* Advanced Hydrological System Analysis is preferred over the other options

### Groundwater Hydrology (thesis SLM or HWM)

		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
<b>MSc 1</b>	<b>MO</b>	YWU-30306 Interdisciplinary Topics in Earth and Environment	HWM-33306 Coastal Oceanography and Delta Geology OR SLM-30806 Land Degradation and Development OR INF-33806 Big Data OR INF-22306 Programming in Python	HWM-33806 Water and Air Flow Numerical Techniques	SLM-31306 Fundamentals of Land Management OR GRS-33306 Spatial and Temporal Analysis for Earth and Environment OR INF-34306 Data Science Concepts OR WSG-34806 Climate Change Adaptation in Water Management OR AEW-31306 Water Quality	SLM-21306 Subsurface Solute Transport	SLM-33306 Advanced Hydrological System Analysis
	<b>AF</b>	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Ecohydrology			Start thesis	

### Environmental Fluid Mechanics in Rivers and Deltas; Riverine Plastic Transport (thesis HWM)

		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
MSc 1	MO	YWU-30306 Interdisciplinary Topics in Earth and Environment	HWM-33306 Coastal Oceanography and Delta Geology	HWM-33806 Water and Air Flow Numerical Techniques	MAQ-35306 Urban Hydrometeorology OR GRS-33306 Spatial and Temporal Analysis for Earth and Environment OR SLM-31806 Erosion Processes and Modelling OR FTE-35306 Machine learning	HWM-32806 Catchment and Climate Hydrology	SLM-33306 Advanced Hydrological System Analysis OR YMC-60809 Academic Consultancy Training OR Start thesis	Continue thesis and do ACT after thesis / internship OR Start thesis and do ACT after thesis / internship (4-wk delay) OR YMC-60809 Academic Consultancy Training
	AF	YWU-30806 Environmental Data Collection and Analysis	HWM-23806 Geophysical Fluid Mechanics* OR SLM-32806 Ecohydrology OR SGL-30306 Inventory Techniques for Geosciences		HWM-30306 River Flow and Morphology	SLM-33306 Advanced Hydrological System Analysis OR YMC-60809 Academic Consultancy Training OR Start thesis		

\* Having followed the BSc course Geophysical Fluid Mechanics (or similar) is highly recommended before River Flow and Morphology

### Hydrogeology; Vadose Zone Hydrology (thesis HWM or SLM)

		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
MSc 1	MO	YWU-30306 Interdisciplinary Topics in Earth and Environment	HWM-33306 Coastal Oceanography and Delta Geology OR INF-33806 Big Data OR INF-22306 Programming in Python	HWM-33806 Water and Air Flow Numerical Techniques	MAQ-35306 Urban Hydrometeorology OR GRS-33306 Spatial and Temporal Analysis for Earth and Environment OR SLM-31806 Erosion Processes and Modelling OR FTE-35306 Machine learning OR INF-34306 Data Science Concepts OR WSG-34806 Climate Change Adaptation in Water Management	HWM-32806 Catchment and Climate Hydrology	SLM-33306 Advanced Hydrological System Analysis	Continue thesis and do ACT after thesis / internship OR Start thesis and do ACT after thesis / internship (4-wk delay)
	AF	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Ecohydrology OR SGL-30306 Inventory Techniques for Geosciences OR GRS-20806 Geo-information tools		HWM-30306 River Flow and Morphology OR Start thesis OR GRS-20806 Geo-information tools OR INF-32306 Software Engineering OR GRS-32306 Advanced Earth Observation			

### Land Management (thesis SLM)

		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
MSc 1	MO	YWU-30306 Interdisciplinary Topics in Earth and Environment	SLM-30806 Land Degradation and Development OR MAT-20306 Advanced Statistics OR INF-33806 Big Data OR INF-22306 Programming in Python OR WSG-35306 Modelling Future Water Stress	HWM-33806 Water and Air Flow Numerical Techniques	MAQ-35306 Urban Hydrometeorology OR SLM-31306 Fundamentals of Land Management OR GRS-33306 Spatial and Temporal Analysis for Earth and Environment OR INF-34306 Data Science Concepts OR WSG-34806 Climate Change Adaptation in Water Management OR AEW-31306 Water Quality	SLM-31806 Erosion processes and Modelling	SLM-33306 Advanced Hydrological System Analysis	Continue thesis and do ACT after thesis / internship
	AF	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Ecohydrology		Start thesis			

Prerequisites thesis HWM: Two courses in the following set: HWM-32806 Catchment Hydrology, HWM-30306 River Flow and Morphology, SLM-33306 Advanced Hydrological Systems Analysis, HWM-33806 Water and Air Flow Numerical Techniques, HWM-33306 Hydrology and Geology of Deltas, MAQ-35306 Urban Hydrometeorology, HWM-20806 Hydrogeology or HWM-23806 Geophysical Fluid Mechanics.

At least one of these courses should be in the set: HWM-32806 Catchment Hydrology, HWM-30306 River Flow and Morphology or SLM-33306 Advanced Hydrological Systems Analysis.

Prerequisites thesis SLM: none (depends on topic)

Specialization A: WANT + 2 other specialization courses