Suggested learning paths Specialisation A - Hydrology and Water Resources

Ecohydrology (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	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	HWM-34306 Advanced Hydrogeology **OR** MAQ-35306 Urban Hydrometeorology **OR** GRS-33306 Spatial and Temporal Analysis **OR** WSG-34806 Climate Change Adaptation in Water Management **OR** AEW-31306 Water Quality	HWM-40306 Catchment and Climate Hydrology	YMC-60809 Academic Consultancy Training
	AF	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Ecohydrology			GRS-20806 Geo-information tools **OR** WSG-60812 Design of Climate Change Mitigation Strategies	

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

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	HWM-34306 Advanced Hydrogeology **OR** MAQ-35306 Urban Hydrometeorology **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 **OR** SLM-31806 Erosion processes and Modelling	Start thesis **OR** SLM-31306 Fundamentals of Land Management	SLM-33306 Advanced Hydrological System Analysis	Continue thesis and do ACT after thesis / internship
	AF	YWU-30806 Environmental Data Collection and Analysis	SLM-32806 Quantitative Ecohydrology			Start thesis		

Groundwater (thesis SLM or HWM)

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<tr><th></th><th></th><th>Period 1</th><th>Period 2</th><th>Period 3</th><th>Period 4</th><th>Period 5</th><th>Period 6</th><th></th></tr>
<tr><td rowspan="2">MSc 1</td><td>MO</td><td>YWU-30306
Interdisciplinary Topics in Earth and Environment</td><td>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</td><td rowspan="2">HWM-33806
Water and Air Flow Numerical Techniques</td><td rowspan="2">HWM-34306
Advanced Hydrogeology</td><td>HWM-40306
Catchment and Climate Hydrology
OR
SLM-21306
Subsurface Solute Transport</td><td rowspan="2">SLM-33306
Advanced Hydrological System Analysis</td><td rowspan="2">Continue thesis and do ACT after thesis / internship</td></tr>
<tr><td>AF</td><td>YWU-30806
Environmental Data Collection and Analysis</td><td>SLM-32806
Quantitiative Ecohydrology</td><td>HWM-30306
River Flow and Morphology
OR
Start thesis
OR
GRS-20806
Geo-information tools
OR
INF-32306
Software Engineering</td></tr>
</table>

Catchments and land surface (thesis HWM)

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<tr><th></th><th></th><th>Period 1</th><th>Period 2</th><th>Period 3</th><th>Period 4</th><th>Period 5</th><th colspan="2">Period 6</th></tr>
<tr><td rowspan="2">MSc 1</td><td>MO</td><td>YWU-30306
Interdisciplinary Topics in Earth and Environment</td><td>HWM-33306
Coastal Oceanography and Delta Geology
OR
INF-33806
Big Data
OR
INF-22306
Programming in Python
OR
MAQ-32306
Boundary-Layer Meteorology</td><td rowspan="2">HWM-33806
Water and Air Flow Numerical Techniques</td><td rowspan="2">MAQ-35306
Urban Hydrometeorology</td><td>HWM-40306
Catchment and Climate Hydrology</td><td rowspan="2">SLM-33306
Advanced Hydrological System Analysis*
OR
WSG-60812
Design of Climate Change Mitigation Strategies
OR
YMC-60809
Academic Consultancy Training</td><td rowspan="2">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</td></tr>
<tr><td>AF</td><td>YWU-30806
Environmental Data Collection and Analysis</td><td>SLM-32806
Quantitative Ecohydrology
OR
GRS-20806
Geo-information tools</td><td>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</td></tr>
</table>

* Advanced Hydrological System Analysis is preferred over the other options

Rivers ands coasts (thesis HWM)

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<tr><th></th><th></th><th>Period 1</th><th>Period 2</th><th>Period 3</th><th>Period 4</th><th>Period 5</th><th colspan="2">Period 6</th></tr>
<tr><td rowspan="2">MSc 1</td><td>MO</td><td>YWU-30306
Interdisciplinary Topics in Earth and Environment</td><td>HWM-33306
Coastal Oceanography and Delta Geology</td><td rowspan="2">HWM-33806
Water and Air Flow Numerical Techniques</td><td rowspan="2">MAQ-35306
Urban Hydrometeorology
OR
HWM-34306
Advanced Hydrogeology
OR
GRS-33306
Spatial and Temporal Analysis
OR
SLM-31806
Erosion Processes and Modelling
OR
FTE-35306
Machine learning</td><td>HWM-40306
Catchment and Climate Hydrology</td><td rowspan="2">SLM-33306
Advanced Hydrological System Analysis
OR
YMC-60809
Academic Consultancy Training
OR
Start thesis</td><td rowspan="2">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</td></tr>
<tr><td>AF</td><td>YWU-30806
Environmental Data Collection and Analysis</td><td>HWM-23806
Geophysical Fluid Mechanics*
OR
SLM-32806
Quantitative Ecohydrology
OR
SGL-30306
Evaluating soils in the Anthropocene</td><td>HWM-30306
River Flow and Morphology</td></tr>
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* Having followed the BSc course Geophysical Fluid Mechanics (or similar) is highly recommended before River Flow and Morphology

Prerequisites thesis HWM: Two courses in the following set: HWM40306 Catchment and Climate Hydrology, HWM30306 River Flow and Morphology, SLM33306 Advanced Hydrological Systems Analysis, HWM33806 Water and Air Flow Numerical Techniques, HWM33306 Coastal Oceanography and Delta Geology, MAQ35306 Urban Hydrometeorology, HWM50806 Advanced Hydrogeology, HWM20806 Hydrogeology or HWM23806 Geophysical Fluid Mechanics.
At least one of these courses should be in the set: HWM40306 Catchment and Climate Hydrology, HWM30306 River Flow and Morphology, SLM33306 Advanced Hydrological Systems Analysis or HWM34306 Advanced Hydrogeology.

Prerequisites thesis SLM: none (depends on topic)
Specialization A: Water and Air Flow: Numerical Techniques + 2 other specialization courses