Programme-specific part of the Education and Examination Regulations 2020-2021

Graduate School of Geosciences: Master's degree programme in Environmental Sciences

The Master's degree programme *Environmental Sciences* offers the programmes *Sustainable Development* and *Water Science and Management*.

Art. 2.1 – Admission requirements

1. The following conditions for admission apply:

Sustainable Development

Admission to the *Sustainable Development* programme is granted to students with a Dutch or a foreign diploma confirming that they have acquired the knowledge, insights and skills at university Bachelor's level.
Furthermore, students need to prove that they have gained the following specific knowledge, insights and skills:

a) knowledge in the field of *Environmental Sciences*, *Natural Sciences* or *Social Sciences* at the advanced level of a major in *Earth Sciences*, *Physics*, *Chemistry*, *Biology*, *Economics*, *Public Administration and Organisational Science* or *Social Sciences* at Utrecht University, or equivalent to this level
b) knowledge in the field of sustainability issues
c) basic knowledge of physical processes in the environment
d) basic knowledge of mathematics at Bachelor's level
e) insight into *Environmental Sciences*, *Natural Sciences* or *Social Sciences* at the advanced level of a major in *Earth Sciences*, *Physics*, *Chemistry*, *Biology*, *Economics*, *Public Administration and Organisational Science* or *Social Sciences* at Utrecht University, or equivalent to this level.
f) academic and research skills of a major in *Earth Sciences*, *Physics*, *Chemistry*, *Biology*, *Economics*, *Public Administration and Organisational Science* or *Social Sciences* at Utrecht University, or equivalent to this level.

Water Science and Management

Admission to the *Water Science and Management* programme is granted to students with a Dutch or a foreign diploma confirming that they have acquired the knowledge, insights and skills at university Bachelor's level.
Furthermore, students need to prove that they have gained the following specific knowledge, insights and skills:

a) knowledge in the field of *Earth Sciences*, *Environmental Sciences* or *Natural Sciences*, at the advanced level of the major *Earth Sciences* or *Environmental Sciences* at Utrecht University, or equivalent to this level
b) insight into *Earth Sciences*, *Environmental Sciences* or *Natural Sciences* at advanced level of the major *Earth Sciences* or *Environmental Sciences* at Utrecht University, or equivalent to this level
c) academic and research skills of the major *Earth Sciences* or *Environmental Sciences* at Utrecht University, or equivalent to this level

2. Students will be selected based on objective standards regarding:
   a) their previous academic performance in a relevant subject area or areas
   b) relevant skills
   c) their command of the language or languages used in the programme

This information is used to consider whether the student concerned will be able to complete the Master's Programme successfully within the set time period.
The admission requirements have been formulated clearly and transparently so that candidates know in advance which requirements must be met in order to qualify for selection.

Art. 3.1 – Aim of the degree programmes

Graduates of the *Environmental Sciences* degree programme:

1. have advanced knowledge and understanding of the field of Environmental Sciences in its societal context
2. can apply knowledge and research methods, and have problem-solving abilities in broader contexts related to the field of *Environmental Sciences*
3. can conduct research in the field of *Environmental Sciences* in a creative and independent way
4. have professional and academic skills, in particular related to *Environmental Sciences*
5. can apply knowledge and understanding in such a way that they demonstrate a professional approach to their work
6. can communicate conclusions, as well as the knowledge, reasons and considerations underlying these conclusions, to an audience of specialists and non-specialists

7. can study and work independently and in a self-reflective way while exploring new areas of interest in the field of the programme or related fields

Sustainable Development

The programme aims:

- to enable integration of the knowledge needed to analyse, describe and explain sustainability issues (in terms of cause and effect) and place these issues in their societal context
- to apply knowledge integration in the generation, assessment and implementation of measures that make a transition to that sustainable society possible

Graduates can:

1. analyse the issue of sustainable development from both natural and social science perspectives
2. apply knowledge, research methods and problem-solving abilities in broad contexts related to sustainable development
3. design and carry out scientific research into sustainable development in a creative and independent way
4. draw up a well-founded critique on the scientific work of others and can engage in a scientific debate on the issue of sustainable development, based on specialised and broader academic knowledge as well as ethical considerations
5. apply knowledge and understanding in such a way that they demonstrate a professional approach to their work
6. communicate conclusions, as well as the knowledge, reasons and considerations underlying these conclusions, to an audience of specialists and non-specialists

Water Science and Management

The aim of this Master's programme is to combine knowledge of the physical water system and elements of classical (technical) water management with knowledge of ecological processes, innovation management and governance.

Graduates can:

1. analyse technical and societal issues, and the relationships between them, relevant to contemporary and future water management aimed at sustainable development
2. understand and perform basic calculations on natural and technical processes related to water quantity and water quality issues
3. design, carry out and report on scientific research on the issue of water management in a creative and independent way
4. engage in a scientific, social and administrative debate on the issue of water management
5. communicate on the issue of water management verbally and in writing to a wide audience of water specialists and non-specialists alike

Art. 3.6 – Composition of the programmes

1. Appendices 1 and 2 describe the required courses of the programmes including their course load.
2. Students may choose optional courses, but these need to be approved by the Board of Examiners. The optional courses are listed in Appendices 1 and 2.
3. The prospectus gives a detailed description of the content and type of courses in the different programmes, including prior knowledge that is required to participate successfully.

Art. 4.2 – Entry requirements of courses

The Executive Board decides the order in which the required components of a Master's degree programme must be completed. This will be published in the prospectus.

Art. 4.7 – Evaluation of quality of the education

1. The Director of Education monitors the quality of education, and ensures that both the courses and the curriculum are evaluated. The Director takes into consideration the advice and suggestions given by the Education Committee regarding improving and ensuring the quality of the programme.
2. Students are informed of the outcomes of the course and curriculum evaluations.

Appendices

Appendix 1: Exam programme Sustainable Development (cohort 2020)

1. Compulsory components (60 EC)

-	Perspectives on Sustainable Development	7.5 EC
-	Systems thinking, Scenarios & Indicators for SD	7.5 EC
-	Research Design SD	7.5 EC
-	Transdisciplinary Case Study	7.5 EC
-	Master's thesis	30 EC

2. Obligatory optional components (30 EC)

Environmental Change & Ecosystems (30 EC)

-	Global Environmental Change	7.5 EC
-	Environmental Systems Analysis	7.5 EC
-	Research project ECE	15 EC

Energy & Materials (30 EC)

-	Tools for Energy & Materials Analysis	7.5 EC
-	Energy Supply Technologies	7.5 EC
-	Policies for Energy and Materials Transitions	7.5 EC
-	Squaring the Circular Economy	7.5 EC

Earth System Governance (30 EC)

-	Foundations of ESG Research	7.5 EC
-	Governance Theories	7.5 EC
-	Research Strategies ESG	7.5 EC

Students need to choose between:

-	Analysing Governance Practices	7.5 EC
-	International Governance for SD	7.5 EC

International Development (30 EC)

-	Development Themes	7.5 EC
-	Advanced Methods & Techniques Development Studies	7.5 EC
-	Field Research Practical	15 EC

3. Other optional components (30 EC)

Students should select additional optional courses for 30 EC.

-	Environmental Change & Ecosystems	30 EC
-	Energy & Materials	30 EC
-	Earth System Governance	30 EC
-	International Development	30 EC

4. Conversion of former courses

Old course	***New course 2020-2021***
Internship ID (GEO4-2336)	Field Research Practical (GEO4-2336)
Environmental Change Theories (GEO4-2310)	Global Environmental Change (GEO4-2310)
Research Design (GEO4-2314)	Research Design SD (GEO4-2314)
Energy and Material Efficiency (GEO4-2324)	Individual request at Board of Examiners

Appendix 2: Exam programme Water Science and Management (cohort 2020)

1. Compulsory components (67.5 EC)

-	Sustainable Water Resources Management	7.5 EC
-	Principles of Groundwater Flow	7.5 EC
-	Quantitative Water Management	7.5 EC
-	Research in WSM	7.5 EC
-	Water Quality Management	7.5 EC
-	Water, Governance and Law	7.5 EC
-	Drinking Water and Sanitation	7.5 EC
-	Transdisciplinary Case Study	7.5 EC
-	Land Surface Hydrology	7.5 EC

2. Obligatory optional components (52.5 EC)

Students need to choose between:

-	Systems thinking, Scenarios & Indicators for SD	7.5 EC
-	Unsaturated Zone Hydrology	7.5 EC

Students need to choose between:

-	Master's thesis (30 EC) + other optional courses (15 EC)	45 EC
-	Extended Master's thesis	45 EC

3. Conversion of former courses

Old course	***New course 2020-2021***
Research Design (GEO4-2314)	Research in WSM (GEO4-6009)

Appendix 3 : Grade conversion tables Joint Programme

FROM GRAZ TO UTRECHT

Definition	GU	UU
Passed	≤4,0 Sehr gut Gut Befriedigend Genügend	Pass
Considerable further work is required, failed	> 4,0 Nicht genügend	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		

FROM LEIPZIG TO UTRECHT

Definition	LU	UU
Passed	≤4,0 Sehr gut Gut Befriedigend Ausreichend	Pass
Considerable further work is required, failed	> 4,0 Mangelhaft	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		

FROM CA' FOSCARI VENICE TO UTRECHT

Definition	CU	UU
Passed	18-30	Pass
Considerable further work is required, failed	< 18	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		

FROM BASEL TO UTRECHT

Definition	BU	UU
Passed	4,0-6,0	Pass
Considerable further work is required, failed	< 4,0	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		

FROM HIROSHIMA TO UTRECHT

Definition	HU	UU
Passed	S A B C	Pass
Considerable further work is required, failed	D	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		

FROM STELLENBOSCH TO UTRECHT

Definition	SU	UU
Passed	>=50%	Pass
Considerable further work is required, failed	<50%	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		

FROM TERI TO UTRECHT

Definition	TERI	UU
Passed	A+ A B+ B C+ C D	Pass
Considerable further work is required, failed	F	Fail
Utrecht University transfers no specific grades but only pass/fail into their own system for credits acquired abroad.		