Course catalogue

Master’s programme

Sustainable Development

2018-2019

Faculty of Geosciences
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Preface

Welcome to the Master’s programme Sustainable Development!

The Master’s programme Sustainable Development is part of the Graduate School of Geosciences and is organised by the Copernicus Institute of Sustainable Development. The programme aims to teach you the specialised knowledge and professional attitudes and skills you need to become a first class researcher in academic and professional organisations in the field of sustainable development. The close link to the excellent research of the Copernicus Institute of Sustainable Development, combined with the small scale of the groups, the international setting of the Master’s programme, and the pleasant working atmosphere will contribute to this aim.

We hope this course catalogue will help you to find easily the relevant information you need as a student in the Master’s programme. First a general description of the programme, the structure, the components and some organisational matters are presented. This is followed by information about procedures and the UU-time table is also included in the catalogue. The Education and Examination regulations 2018-2019 (OER) can be found in Appendix II and the Regulations of the Board of Examiners in Appendix III.

At any time during your studies you will need two course catalogues: one of the year you started your Master’s programme in Sustainable Development (this shows the exam programme that you need to follow) and one of the most recent academic year, which shows the current Rules & Regulations.

You can find more information on the website at: http://students.uu.nl/en/geo/susd and in the Blackboard community for all Sustainable Development students. Still, if you have some (personal) questions, you can contact the student advisor of the programme.

On behalf of the staff I wish you an inspiring, pleasant and successful new academic year!

Dr. Paul Schot, Programme Leader Master Sustainable Development and Dr. Jacco Farla, Director of Education Copernicus Institute of Sustainable Development
1 Content of the programme

1.1 Introduction

Since the global environmental conferences in Rio de Janeiro in 1992, Johannesburg in 2002 and again in Rio de Janeiro in 2012, sustainable development has become an internationally recognised principle that most nations are now committed to achieve. The main ways they are doing so are by shifting from fossil fuel based energy towards renewable energy, recycling materials, using natural resources prudently, making consumption patterns more environmentally accountable, paying attention to the quality of the built environment, and conserving and restoring the remaining natural habitats, while rethinking socio-economic structures. Sustainable development is the expression of a desire to attune economic and social development to the carrying capacity of the physical environment everywhere, now and in the future.

The Master’s degree programme in Sustainable Development is intended to educate graduates who wish to work towards an environmentally accountable society. The main focus of this Master’s programme is the scientific analysis of the complex processes of change related to the pursuit of a sustainable society. Besides a critical analysis and evaluation of these processes, the programme also deals with the various means by which societal and/or technological changes can be implemented. These issues are studied from a multidisciplinary perspective. The programme comprises elements of the natural and social science. In an intensive programme, students learn to apply scientific instruments in the areas of analysis, evaluation, and design. In addition, they become familiar with practical strategies for intervention. The programme devotes ample attention to the international dimension of sustainability issues.

Students enrolled in this programme should be interested in the issue of sustainable development. Moreover, they should be willing and able to analyse and evaluate complex processes from a multidisciplinary perspective.

In the common courses (which are compulsory for all students) issues of sustainable development are discussed from a variety of standpoints. Students learn about the theories and research approaches used by both natural scientists and social scientists. They work in research teams, where they will be confronted with knowledge and insights and will have to integrate them. The programme further consists of four different tracks, allowing students to specialize in a direction of their choice. The following tracks are offered:

- Energy and Materials: the focus is on the transition to sustainable use of energy and materials; this track is rooted in the natural sciences, and also uses knowledge and methods from the social sciences.

- Environmental Change and Ecosystems: the focus is on the sustainable use of land and water; the approach is based in the natural sciences.

- Earth System Governance: the focus is on governing the social changes required to achieve an environmentally accountable society; the perspective is rooted in the social sciences.

- International Development: the focus is on sustainability issues and living conditions in the global south; the approach is based in social sciences.

The Master’s degree programme Sustainable Development is organised jointly by two departments of the Faculty of Geosciences: Innovation, Environmental and Energy Sciences (coordination), and Human Geography and Spatial Planning, with also some
inputs by the two other departments of the Faculty of Geosciences: Earth Sciences, and Physical Geography.

The programme prepares the student for various occupations. Having earned a Master's degree, one can embark upon a PhD programme and conduct scientific research, or equally access academic level positions outside the field of scientific research in consultancy, business or policy functions.

1.2 Mission of the Master’s programme

The aim of the Master's programme Sustainable Development is expressed in the following mission statement:

*Educate scientists who will be able to make a substantial contribution to the transition to a sustainable society through their scientific research and their skills in the area of societal interventions.*

Sustainable development requires a process of change in which a balance is achieved among ecological, technological, economic, and social-cultural values, from the local to the global scale, in both the short and the long term. Academics can play an important role in this transition by integrating and applying knowledge. First of all, the integration of knowledge is needed to be able to analyse, describe, and explain sustainability issues (in terms of cause and effect) and place these issues in their societal context. Secondly, knowledge integration plays a role in the generation, assessment, and implementation of measures that make a transition to that sustainable society possible. Graduates with a Master's degree in Sustainable Development can take various positions in research institutes, government, companies, and organisations in civil society.

1.3 Relation between the Master’s programme and research at the Copernicus Institute and International Development Studies

The Master’s programme is closely tied to the Copernicus Institute of Sustainable Development, which is affiliated with Utrecht University. The work of this research institute focuses on a wide range of issues related to sustainable development and innovation. The starting point of all research is the source-impact chain that links economic activities with ecological values. The programme is connected with all four major research themes of the institute: Global Environmental Change, Innovation and Governance for Sustainability, The Resource Efficient Economy, and Transforming the Energy System. For more information on the research programme and its clusters of the Copernicus Institute, see: [http://www.uu.nl/faculty/geosciences/en/research/institutesandgroups/researchinstitutes/copernicusinstitute/Pages/default.aspx](http://www.uu.nl/faculty/geosciences/en/research/institutesandgroups/researchinstitutes/copernicusinstitute/Pages/default.aspx).

The Master’s programme is also connected to the research of the International Development Studies group (IDS). The IDS research programme provides an innovative contribution to our understanding of development within a context of globalization. They address the question: what is the implication of time-space compression (globalization) for development processes and poverty in Asia, Africa, and Latin America? For more information on the research programme see: [http://www.uu.nl/node/511/research/international-development-studies](http://www.uu.nl/node/511/research/international-development-studies).
1.4 Competence profile and occupational perspectives

The Master’s programme prepares students for a PhD study, as well as for employment in the private sector, consultancy firms, the public sector (national, regional, and local government), and NGOs.

This competence profile is achieved in the following way:

- The programme devotes extensive attention to scientific theories (paradigms), theory building, theory testing and methodology.
- Students in the programme learn to apply the body of scientific instruments that is available for analysis, evaluation, and design in an intensive and critical manner. In addition, students develop a research attitude, focused on accuracy, originality, critical thinking and creativity.
- The assignments give students the opportunity to learn how to work in multidisciplinary teams.
- Students become acquainted with practical intervention strategies.
- Students write a Master’s thesis that is intended to generate new scientific knowledge.

Career perspectives of our graduates are further described in section 3.9.
2. **Degree Qualifications, Programme and Tracks**

2.1 **Degree Qualifications**

The students must comply with two requirements before Utrecht University will award the Master’s degree:

- The student must have completed a number of theoretical courses in the field of specialisation, and
- The student must have completed an independent research project and/or a research internship

The following general qualifications apply to the programme Sustainable Development. The graduate:

- is able to analyse the issue of sustainable development from a natural science and social science perspective;
- has the ability to apply knowledge and research methods, and problem-solving abilities in broader contexts related to sustainable development;
- is able to design and carry out natural scientific or social scientific research on the issue of sustainable development in a creative and independent way;
- can formulate fundamental 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;
- is able to apply knowledge and understanding in such a way that he or she demonstrates a professional approach to their work;
- is able to communicate conclusions, as well as the knowledge, reasons and considerations underlying these conclusions, to an audience of specialists and non-specialists.

2.2 **Programme**

The programme consists of a general part, which is mandatory for all students, and of tracks, in which students specialise in a particular direction. The general programme is presented below (more specific programmes per track are given further down the text).

In the general part, the challenges of sustainable development are examined from various perspectives. Students become familiar with both natural science and social science approaches learning about feedbacks between natural and social systems and how to use indicators for sustainable development. Students are also trained to design research, and work in research teams where integration of knowledge and insights takes place aimed at analysing and solving real world sustainable development issues in society.

The general part consists of the following mandatory courses (total 30 EC):

1. Perspectives on Sustainable Development (GEO4-2301)
2. Sustainability Modelling & Indicators (GEO4-2331)
3. Research Design (GEO4-2314)
4. Transdisciplinary Case Study (GEO4-2302)

In addition to the general courses each student pursues a specialisation track. The programme offers the following four tracks:

- Energy and Materials
- Environmental Change and Ecosystems
- Earth System Governance
- International Development
The tracks build on knowledge derived from various disciplines in the natural sciences and social sciences. On these foundations interdisciplinary knowledge is built. Each track pays attention to theoretical backgrounds, research methods and intervention methods. This is done in four mandatory courses per track (total 30 EC). The student can broaden or deepen that basis with elective courses (15-30 EC) that are part of the other tracks (taking the prerequisite prior knowledge into account), or courses from other Master’s programmes. The Board of Examiners must approve the choice of elective courses (see Appendix I).

The programme culminates in a thesis. A research internship may be part of the final thesis project. After the thesis has been completed, the student must present his research results to the faculty staff and students.

In addition to the Master’s degree SUSD, SUSD-students can also obtain an Annotation Sustainable Entrepreneurship & Innovation or a Complex Systems Profile certificate. Excellent students can apply for participation in the Young Innovators Programme or the Climate KIC Scholar Programme (see section 2.8).

**Bold** = mandatory SUSD  
**Normal** = mandatory track course  
**Italic** = mandatory elective within track  
[ ] = free elective

### Year 1 (intake 2018)

| Period 1 | (A+B) Perspectives on Sustainable Development, GEO4-2301 | EM: (C) Tools for Energy & Materials Analysis, GEO4-2326  
**ECE:** (C) Environmental Change Theories, GEO4-2310  
**ESG:** (C) Foundations of ESG Research, GEO4-2306  
**ID:** (D) Development Themes, GEO4-3510 |
| --- | --- | --- |
| Period 2 | (C) Sustainability Modelling & Indicators, GEO4-2331 | EM: (B) Sustainable Energy Supply, GEO4-2312  
**ECE:** [Free elective]  
**ESG:** (B) Governance Theories, GEO4-2332  
**ID:** (B) Advanced Methods & Techniques Development Studies, GEO4-3518 |
| Period 3 | (C) Research Design, GEO4-2314 | EM: [Free elective]  
**ECE:** (A+B) Environmental Systems Analysis, GEO4-2303  
**ESG:** (D) Research Strategies ESG, GEO4-2304  
**ID:** [Free elective] |
| Period 4 | EM: (C) Policies for Energy and Materials Transitions, GEO4-2311  
**ECE:** (A+C) Research project ECE, GEO4-2335  
**ESG:** (C) Analysing Governance Practices, GEO4-2328  
**ID:** (A/B/C/D) Internship ID, GEO4-2336 | EM: [Free elective]  
**ECE:** (A+C) Research project ECE, GEO4-2335  
**ESG:** (B) International Governance for SD, GEO4-2305  
**ID:** (A/B/C/D) Internship ID, GEO4-2336 |
### Year 2 (intake 2017)

<table>
<thead>
<tr>
<th>Period 1</th>
<th>(D) Transdisciplinary case study, GEO4-2302</th>
<th>EM: (B) Energy &amp; Material Efficiency, GEO4-2324&lt;br&gt;<strong>ECE:</strong> [Free elective]&lt;br&gt;<strong>ESG:</strong> [Free elective]&lt;br&gt;<strong>ID:</strong> [Free elective, e.g.&lt;br&gt;<em>(C) Development Theories, GEO4-3505]</em></th>
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<tr>
<td>Period 2</td>
<td><strong>Master’s thesis SD, GEO4-2321</strong>&lt;br&gt;+ Extended thesis, or extra free electives (15 EC)</td>
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Possibly interesting electives Copernicus Institute:<br>GEO4-2323: Environmental Ethics (1A)<br>GEO4-2327: Climate System and Adaptation (2B)<br>GEO4-2325: Current and Future Geo-Energy Resources (3A)

### 2.3 Track Energy and Materials

The track Energy and Materials deals with the production and consumption of energy and materials in society, and the possibilities for sustainable development within energy and material systems. One area of research concerns the description and explanation of historical developments; another looks towards the future and concerns possible technological and societal developments, including technological opportunities and policy development. To a large extent, this track makes use of a conceptual framework derived from the natural sciences, and also of knowledge and methods derived from the social sciences. Some courses build on specific foreknowledge. Students lacking this are responsible for acquiring this knowledge independently before entering such courses.

Graduates will be able to apply the knowledge, methods, and techniques of the natural sciences, and to a lesser extent those of the social sciences as well, when analysing energy systems and materials systems and the possibilities for a sustainable development of these systems. Furthermore, graduates will have insight in the importance of both the natural science and the social science aspects of sustainability issues and will have the skills needed to work in a multidisciplinary work environment.

The curriculum of the track Energy and Materials consists of the following elements:

**Mandatory SUSD courses (60 EC):**
- Perspectives on Sustainable Development (GEO4-2301) (7,5 EC)
- Sustainability Modelling & Indicators (GEO4-2331) (7,5 EC)
- Research Design (GEO4-2314) (7,5 EC)
- Transdisciplinary case study (GEO4-2302) (7,5 EC)
- Master’s thesis SD (GEO4-2321) (30 EC)

**Mandatory track courses (30 EC):**
- Tools for Energy & Materials Analysis (GEO4-2326) (7,5 EC)
- Sustainable Energy Supply (GEO4-2312) (7,5 EC)
- Policies for Energy & Materials Transitions (GEO4-2311) (7,5 EC)
- Energy & Material Efficiency (GEO4-2324) (7,5 EC)

**Free elective courses (30 EC):**
The following courses are recommended as free electives:
- Bio-based Economy (GEO4-2521) (7.5 EC), in period 3, slot B
- Energy Systems Modelling (GEO4-2515), in period 3 slot D
- Energy in the Built Environment (GEO4-2522), in period 1, slot B
- Climate System & Adaptation (GEO4-2327) (7.5 EC), in period 2, slot B
- Current and Future Geo-Energy Resources (GEO4-2325) (7.5 EC), in period 3, slot A
- Environmental Ethics and Sustainable Development (GEO4-2323), in period 1, slot A
- Extension Thesis (GEO4-2322) (15 EC)

For more recommended electives see website: http://students.uu.nl/en/geo/susd/academics/study-programme/electives.
Recommended electives do not need to be approved by the track coordinator but must still be approved before starting by the Board of Examiners.

Year 1 (intake 2018)

<table>
<thead>
<tr>
<th>Period 1</th>
<th>(A+B) Perspectives on Sustainable Development (GEO4-2301)</th>
<th>(C) Tools for Energy &amp; Materials analysis (GEO4-2326)</th>
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<tbody>
<tr>
<td>Period 2</td>
<td>(C) Sustainability Modelling &amp; Indicators (GEO4-2331)</td>
<td>(B) Sustainable Energy Supply (GEO4-2312)</td>
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<td>(C) Research Design (GEO4-2314)</td>
<td>[Free elective]</td>
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<td>Period 4</td>
<td>(C) Policies for Energy and Materials Transitions (GEO4-2311)</td>
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Year 2 (intake 2017)

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<th>(B) Energy &amp; Material Efficiency (GEO4-2324)</th>
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<tbody>
<tr>
<td>Period 2</td>
<td>Master’s thesis SD (GEO4-2321)</td>
<td>+ Extended thesis, or extra free electives (15 EC)</td>
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<td>Period 3</td>
<td>Master’s thesis SD (GEO4-2321)</td>
<td>Master’s thesis SD (GEO4-2321)</td>
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<td>Period 4</td>
<td>Master’s thesis SD (GEO4-2321)</td>
<td>+ Extended thesis, or extra free electives (15 EC)</td>
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**Bold** = mandatory SUSD course
**Normal** = mandatory track course
[ ] = free elective

### 2.4 Track Environmental Change and Ecosystems

The track Environmental Change and Ecosystems is concerned with the interaction between human activities and the quality of the physical and biotic environment. The multidisciplinary character of the programme appears from the integration of knowledge from the fields of physical geography, hydrology, landscape ecology, toxicology, mathematics, physics, and chemistry. Some of the relevant priority areas are the following: land use; dispersal of substances in water, soil, and air; impacts on ecosystems and biodiversity; possibilities for remediation; and the value assigned to the quality of nature and the environment. Some courses build on specific foreknowledge. Students lacking this are responsible for acquiring this knowledge independently before entering such courses.

Graduates will be able to apply the knowledge, methods, and techniques (for instance, mathematical simulation models) of the natural sciences in an effort to improve the quality of the environment and ecosystems by way of changes in human activities. Furthermore, graduates will have insight in the importance of conducting social
science analyses of sustainability issues and will have the skills needed to work in a multidisciplinary team.

The curriculum of the track Environmental Change and Ecosystems consists of the following elements:

**Mandatory SUSD courses (60 EC):**
- Perspectives on Sustainable Development (GEO4-2301) (7,5 EC)
- Sustainability Modelling & Indicators (GEO4-2331) (7,5 EC)
- Research Design (GEO4-2314) (7,5 EC)
- Transdisciplinary case study (GEO4-2302) (7,5 EC)
- Master’s thesis SD (GEO4-2321) (30 EC)

**Mandatory track courses (30 EC):**
- Environmental Change Theories (GEO4-2310) (7,5 EC)
- Environmental Systems Analysis (GEO4-2303) (7,5 EC)
- Research project ECE (GEO4-2335) (15 EC)

**Free elective courses (30 EC):**
The following courses are recommended as free electives:
- Climate System & Adaptation (GEO4-2327) (7,5 EC), in period 2, slot B
- Environmental Ethics and Sustainable Development (GEO4-2323), in period 1, slot A
- Extension Thesis (GEO4-2322) (15 EC)

For more recommended electives see website: [http://students.uu.nl/en/geo/susd/academics/study-programme/electives](http://students.uu.nl/en/geo/susd/academics/study-programme/electives).
Recommended electives do not need to be approved by the track coordinator but must still be approved before starting by the Board of Examiners.

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<td>Period 2</td>
<td>(C) Sustainability Modelling &amp; Indicators (GEO4-2331)</td>
<td>[Free elective]</td>
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<td>(A+C) Research project ECE (GEO4-2335)</td>
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### Year 2 (intake 2017)

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<th>Period 1</th>
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<td>Period 2</td>
<td>Master’s thesis SD (GEO4-2321)</td>
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**Bold** = mandatory SUSD course  
**Normal** = mandatory track course  
[ ] = free elective
2.5 Track Earth System Governance

The track Earth System Governance deals with the management of sustainable development by integrating knowledge from the fields of policy science, sociology, human geography, planning, economics, and law. Students are taught research and intervention skills that they will need in their future professional career. Some courses build on specific foreknowledge. Students lacking this are responsible for acquiring this knowledge independently before entering such courses. Graduates will be able to apply paradigms, concepts and theories from the social sciences to analyse and explain issues of sustainable development and to design socially acceptable solutions for those issues. Furthermore, graduates will have insight in the importance of conducting both social science and natural science analysis of sustainability issues and will have the skills needed to work in a multidisciplinary team.

The curriculum of the track Earth System Governance consists of the following elements:

**Mandatory SUSD courses (60 EC):**
- Perspectives on Sustainable Development (GEO4-2301) (7.5 EC)
- Sustainability Modelling & Indicators (GEO4-2331) (7.5 EC)
- Research Design (GEO4-2314) (7.5 EC)
- Transdisciplinary case study (GEO4-2302) (7.5 EC)
- Master's thesis SD (GEO4-2321) (30 EC)

**Mandatory track courses (22.5 EC):**
- Foundations of ESG Research (GEO4-2306) (7.5 EC)
- Governance Theories (GEO4-2332) (7.5 EC)
- Research Strategies ESG (GEO4-2304) (7.5 EC)

**Mandatory elective course within track (7.5 EC):**
- Analysing Governance Practices (GEO4-2328) (7.5 EC), or:
- International Governance for SD (GEO4-2305) (7.5 EC)

**Free elective courses (30 EC):**
The following courses are recommended as free electives:
- Governance and Change Management for Sustainability (GEO4-2604) (7.5 EC), in period 2, slot A
- Water, Governance and Law (GEO4-6002) (7.5 EC), in period 4, slot A
- Innovation Systems and Processes (GEO4-2257) (7.5 EC) in period 2, slot A
- Environmental Ethics and Sustainable Development (GEO4-2323), in period 1, slot A
- Sustainable Entrepreneurship (ECMSE) (7.5 EC), in period 3, slot D
- Knowledge Management (INFOKMT) (7.5 EC), in period 1, slot D
- Extension Thesis (GEO4-2322) (15 EC)

**Year 1 (intake 2018)**

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<tr>
<th>Period 1</th>
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<td>Period 4</td>
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**Normal** = mandatory track course  
**Italic** = mandatory elective within track  
[ ] = free elective

### 2.6 Track International Development

In the Global South, environmental concerns have to be reconciled with a pressing need to improve living conditions for rapidly growing populations whose livelihoods often depend directly on the production capacity of local environmental resources. Balancing these requirements of meeting human development needs on the one hand and preserving the quality of natural resources on the other, is the key issue in this track. The approach taken is a distinctly multidisciplinary one, combining the development geographer’s practical orientation towards fieldwork and empirical research with insights and concepts derived from social sciences such as sociology, economics and anthropology, as well as from environmental studies. ‘Sustainability’ is viewed in a broad sense, encompassing ecological as well as economic, social and other dimensions. Some courses build on specific foreknowledge. Students lacking this are responsible for acquiring this knowledge independently before entering such courses.

Graduates will be able to apply the knowledge, methods and techniques of the social sciences to practical and policy issues of sustainable and equitable development in a developing country context. They will combine a solid grasp of natural resource management with the ability to analyse and plan for economic and social development in societies in the South. An important feature of the track is a concern with policy interventions in order to promote sustainable livelihoods.

The curriculum of Track International Development consists of the following elements:

**Mandatory SUSD courses (60 EC):**
- Perspectives on Sustainable Development (GEO4-2301) (7.5 EC)
- Sustainability Modelling & Indicators (GEO4-2331) (7.5 EC)
- Research Design (GEO4-2314) (7.5 EC)
- Transdisciplinary case study (GEO4-2302) (7.5 EC)
- Master’s thesis SD (GEO4-2321) (30 EC)

**Mandatory track courses (30 EC):**
- Development Themes (GEO4-3510) (7.5 EC)
- Advanced Methods & Techniques Development Studies (GEO4-3518) (7.5 EC)
- Internship ID (GEO4-2336) (15 EC)

**Free elective courses (30 EC):**
The following courses are recommended as free electives:
- Development Theories (GEO4-3505), in period 1, slot C
- Environmental Ethics and Sustainable Development (GEO4-2323), in period 1, slot A
- Migration, mobilities and sustainable futures (GEO4-3519), in period 2, slot D (note: 5 EC)
- Extension Thesis (GEO4-2322) (15 EC)
### Year 1 (intake 2018)

<table>
<thead>
<tr>
<th>Period 1</th>
<th>(A+B) Perspectives on Sustainable Development (GEO4-2301)</th>
<th>(D) Development Themes (GEO4-3510)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period 2</td>
<td>(C) Sustainability Modelling &amp; Indicators (GEO4-2331)</td>
<td>(B) Advanced Methods &amp; Techniques Development Studies (GEO4-3518)</td>
</tr>
<tr>
<td>Period 3</td>
<td>(C) Research Design (GEO4-2314)</td>
<td>[Free elective]</td>
</tr>
<tr>
<td>Period 4</td>
<td>(A/B/C/D) Internship ID (GEO4-2336)</td>
<td>(A/B/C/D) Internship ID (GEO4-2336)</td>
</tr>
</tbody>
</table>

### Year 2 (intake 2017)

<table>
<thead>
<tr>
<th>Period 1</th>
<th>(D) Transdisciplinary case study (GEO4-2302)</th>
<th>[Free elective]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period 2</td>
<td>Master’s thesis SD (GEO4-2321)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Extended thesis, or extra free electives (15 EC)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Period 3</th>
<th>Period 4</th>
<th></th>
</tr>
</thead>
</table>

**Bold** = mandatory SUSD course  
**Normal** = mandatory track course  
[ ] = free elective

## 2.7 Elective courses

For the acknowledgment of the elective courses the student must obtain approval of the Board of Examiners in advance; the full rules and procedure are described in Appendix I of this course catalogue. There are also approved electives see website: [http://students.uu.nl/en/geo/susd/academics/study-programme/electives](http://students.uu.nl/en/geo/susd/academics/study-programme/electives)

Approved electives still need to be approved before starting by the Board of Examiners (but not by the programme leader).

In general, students are recommended to take elective courses from the other SD tracks or from one of the other Master’s programmes offered by the department: Innovation Sciences (IS), Sustainable Business & Innovation (SBI), Water Science and Management (WSM) or Energy Science (ES) although, of course, only if they meet the course’s entrance requirements. Another option is doing a Tailor-made course (GEO4-2320). In this case, a proposal needs to be submitted to the Board of Examiners.

Elective courses can also be followed at other universities. We recommend looking at opportunities offered by our partner universities in the Joint International Master in Sustainable Development (see [http://www.jointdegree.eu/sd](http://www.jointdegree.eu/sd)) and other Erasmus partners of the Faculty of Geosciences.

Please note that students with non-EEA nationalities may have to pay a steep fee in order to take elective courses at another Dutch university. This fee cannot be paid for or reimbursed by Utrecht University.

The Babel Talen Institute offers a short course in English for Academic Purposes. This course aims to practise the writing and presenting skills students need in their Master’s programme. It does not offer any credits but you can take the course outside your SUSD programme, at your own expense. Please see [http://www.babel.nl/language-courses/open-courses/english/course-english-for-academic-purposes/?lang=en](http://www.babel.nl/language-courses/open-courses/english/course-english-for-academic-purposes/?lang=en) for more details.
2.8 Extra-curricular programmes

2.8.1 Profile Complex Systems

The world around us is becoming more and more complex. A small change in one variable can have a significant impact, resulting in e.g. traffic jams, a sudden epidemic or a financial crisis. Complex Systems are often the driving force behind these phenomena. As a whole they possess characteristics which cannot be deducted simply from its individual parts, but only from the way in which these are combined together. Predicting a traffic jam is e.g. hardly possible by only studying the behavior of individual drivers. The whole is bigger than the sum of its parts.

The profile Complex Systems is an interdisciplinary profile for ambitious students from different Master’s programmes, who want to work on modelling solutions within the field of Complex Systems. The profile gives you the opportunity to broaden your view and knowledge from an interdisciplinary angle and widens your opportunities for further development. It prepares you for a career in interdisciplinary fields at, for instance, financial companies.

This profile can be fitted into your Master’s programme, 30 EC in total. You will receive a Complex Systems certificate.

In order to qualify for the annotation, the following requirements must be fulfilled:

Courses (15 EC)
Having passed the examinations of two (elective) courses:
- Sustainability Modelling & Indicators (GEO4-2331; 7,5 EC)
- a choice of one from the following courses:
  • Introduction to Complex Systems, code WISM484 (7,5 EC; period 1-2)
  • Applying Mathematics in Finance, code WISM410 (7,5 EC; period 3-4)
  • Measuring the health effect of ionizing radiation, code WISM409 (7,5 EC; period 3-4)
- Or a course from a Master’s programme, other than your own, that is labelled as a Complex Systems course.

Thesis (15 EC)
A research project/literature study on a topic in the field of complex systems. Focus should be on interdisciplinary aspects and at least two supervisors from different departments/faculties should be involved. The topic may not correspond with the topic of your Master’s thesis. The topic should be approved by the steering group members of the Foundations of Complex systems focus area who are involved and by the programme director of your Master’s programme.

The total number of EC will NOT be increased by completing the Master profile Complex Systems.

If you have questions about the profile, please ask your Master’s programme leader for more information.

You can apply for this Master profile by sending an email to the coordinator Complex systems: Quirine Laumans

More information about the research on Complex Systems.

2.8.2 Annotation Sustainable Entrepreneurship & Innovation

The Master Annotation Sustainable Entrepreneurship & Innovation is a university wide Master track that aims to deliver world leading change agents in the area of sustainability. Students enrolled in the Master’s programme Sustainable Development can qualify themselves for the annotation Sustainable Entrepreneurship & Innovation.
next to their Master’s degree SUSD and will obtain an additional certificate. In order to qualify for the annotation, the following three requirements must be fulfilled:

1) having passed the examinations of one of these two elective courses:
   - Technology Related Venturing (GEO4-2268; 7,5 EC) with an assignment regarding a sustainability subject;
   or:
   - Sustainable Entrepreneurship (ECMSE; 7,5 EC).

2) having passed the examinations of one of these elective courses, which may not be the same course as the course passed for fulfillment of requirement 1 mentioned above:
   - GEO4-2521: Bio-based economy
   - GEO4-2514: Energy in the Context of Sustainability
   - GEO4-2312: Sustainable Energy Supply
   - GEO4-2604: Governance and Change Management for Sustainability
   - GEO4-2268: Technology Related Venturing
   - GEO4-5501: Techniques of Futuring
   - ECMSE: Sustainable Entrepreneurship

3) having conducted a research project of at least 15 EC related to the subject of Sustainable Entrepreneurship & Innovation. This can only be achieved with the Master’s Thesis (GEO4-2321; 30 EC) on a subject related to Sustainable Entrepreneurship & Innovation.

The requirements for the research component are:
- It is about newly developed or to be developed sustainable production processes, products, and/or services created by firms (within established firms and/or new start-ups);
- These activities need to be new to the current business activities of these firms;
- It needs to include some form of data collection about these new business activities;
- This research component should be at least 15 EC of the Master’s programme.

In the research proposal students have to stipulate the fit of their research proposal to these 4 requirements in a separate section.

If you decide to undertake the annotation, please indicate this on the form for choosing elective courses: http://students.uu.nl/sites/default/files/geo-ees-application_form_optional_courses.pdf.

In order to qualify for the third requirement, you should indicate the choice for the annotation on the Master’s thesis research proposal information form. Once you have completed the Master’s thesis, it will be checked whether it meets the requirements. If you have met all requirements for the annotation, you will be awarded an annotation certificate together with your Master’s degree certificate.

2.8.3 Climate-KIC EIT Master Label

For a small number of excellent students, Climate-KIC, part of the European Institute of Innovation and Technology (EIT), offers the Climate-KIC EIT Master Label. It allows selected MSc students to explore climate science and sustainable entrepreneurship alongside their regular master courses.

For SUSD Master’s students, this programme consists of:
o Two courses of the Annotation Sustainable Entrepreneurship & Innovation (see above)

- The climate innovation summer school - The Journey
- A series of thought-provoking SPARK! talks and seminars
- International mobility: Students must complete a period of geographical international mobility (min. 15 ECTS) at another university (academic semester/year, for instance) or by doing an internship abroad (applied research internship, industrial internship, for instance)
- Real-life work experience mobility. Students must complete a period of real-life work experience (min. 15 ECTS) outside their home university (applied research internship, industrial internship, development of their own start-up, for instance)

Both types of mobility can be merged into one if the students complete a period of real-life work experience outside their home university in another country (30 ECTS).

- Master's thesis on a topic related to Sustainable Entrepreneurship & Innovation

Students who complete the Climate-KIC EIT Master Label will receive the EIT Master Label certificate. It is not possible to receive both the EIT certificate and the annotation certificate. More information on the programme and the enrolment procedure is available at: [http://www.climate-kic.org/](http://www.climate-kic.org/)

### 2.8.4 Young Innovators Programme

Utrecht University offers the Young Innovators Programme to high-achievers with leadership potential. Young Innovators Programme is a selective 15 EC honours course at graduate level, to be taken on top of any Master's programme.

The Young Innovators programme embodies a community of learning, where the focus is on creating positive impact through social innovation and personal leadership. As such, the programme focuses on learning to research, design and deliver innovative and sustainable solutions to real-life societal challenges. Supported by leading researchers from the University's strategic theme Institutions for Open Societies, the programme allows you to immerse yourself in both theory and practice of innovation across corporate, public and community sectors.

During this program you will be stimulated to collaborate, produce and learn in multidisciplinary teams. In this, you are challenged to take ownership of both your own and collective learning processes and thereby invited to co-create the program design.

Young Innovators is an honours programme designed for students who have the will and ability to stretch themselves beyond the confines of their regular Master's programme. Young Innovators is about learning and working differently: experientially, through ownership, through challenging teamwork, on the borderlines of academia and practice, and at the interface of research and intervention.

Being part of this learning community, you:
- are part of an inspiring and experiential learning environment that may further enhance the basis for your professional network;
- work in an interdisciplinary team on a real-life societal challenge;
- present your team’s work-in-progress at several plenary conferences;
- attend supportive meetings to acquire the knowledge, skills and inspiration needed for social innovation;
- learn to take ownership of your own learning processes and the programme design.

2.8.5 SENSE Honours Programme

The SENSE Honours Programme offers 12 to 15 excellent MSc students from SENSE related MSc programmes the opportunity to follow a special "research master track" in the second year of their MSc programme. This track prepares you for an academic research career by writing a full PhD research proposal on a subject of your own choice, which fits into the SENSE research theme "Sustainability Sciences". At the end of the MSc Honours Programme the candidates are encouraged to continue their research as PhD candidate at one of the participating SENSE research groups. The SENSE research groups will help you to find external funding for your PhD proposal or to find a position as PhD candidate at one of the research groups.

Excellent MSc students are nominated by professors, thesis supervisors, lecturers or by the coordinator of the participating MSc programmes. MSc students who are interested in the programme, please contact your thesis supervisor, lecturer or MSc programme coordinator. More information can be found here: http://www.sense.nl/honours. Or contact Monique Gulickx: monique.gulickx@sense.nl

2.9 Master’s thesis

The Master’s thesis (GEO4-2321) is a research project in which the student will learn to conduct independent research, whereby new methods are developed and/or applied or existing methods are applied to a new problem. The research should be relevant from both a scientific point of view (it should expand the body of scientific knowledge) and a societal point of view (it should produce knowledge that can contribute to a better understanding or the solution of a problem). In total, the Master’s thesis research accounts for 30 EC. With permission of your thesis coordinator and after approval of the Board of Examiners you can extend the thesis up to 45 EC. It is not possible to change the number of EC after the research proposal has been approved by the Board of Examiners.

Information on procedures, entrance requirements, place of research, output etc. can be found in the course description in this catalogue and in the course manual Master’s thesis Sustainable Development, which can be found on the Blackboard Community Sustainable Development. The Master’s thesis may be combined with an internship. The Faculty of Geosciences has its own digital internships database: http://internships.geo.uu.nl.

2.10 Entrance requirements and other restrictions SUSD-courses

Some courses in the SUSD programme require prior knowledge, to be gained by passing or at least attending certain previous SUSD-courses. In the tables on the next pages you will find which courses carry which entrance requirements or recommended prerequisites or may have other entrance restrictions. For students in the Joint International Master in Sustainable Development programme, admission to courses will be judged on an individual basis, based on previous education and interests, except when mentioned otherwise in the table.

In case of a discrepancy between the entrance requirements and/or recommended pre-requisites and/or other restrictions mentioned in this course catalogue and the ones mentioned in the electronic UU course offerings database ‘Osiris’, the entrance requirements and/or recommended pre-requisites and/or other restrictions mentioned in the tables below are leading.
### Entrance requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Entrance requirement*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perspectives on Sustainable Development (GEO4-2301)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Water Science &amp; Management</td>
</tr>
<tr>
<td>Transdisciplinary Case Study (GEO4-2302)</td>
<td>- Letter of acceptance MSc Sustainable Development or MSc Water Science &amp; Management.</td>
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<tr>
<td></td>
<td>- At least 30 EC gained in the master’s programme SUSD or WSM, including Perspectives on Sustainable Development (GEO4-2301).</td>
</tr>
<tr>
<td>Environmental Systems Analysis (GEO4-2303)</td>
<td>Recommended prerequisites: For students from other programmes: mathematics and modelling, level 1; e.g. Wiskunde &amp; Systeemanalyse (GEO1-2202), please contact the coordinator before enrolment in Osiris.</td>
</tr>
<tr>
<td>Research Strategies ESG (GEO4-2304)</td>
<td>Letter of acceptance MSc Sustainable Development. Actively participated in Foundations of ESG Research or Policy Analysis (GEO4-2306) and Governance Theories (GEO4-2332)</td>
</tr>
<tr>
<td></td>
<td>Recommended prerequisites: Basic research methodology skills. Knowledge of the main literatures on environmental governance.</td>
</tr>
<tr>
<td>International Governance for SD (GEO4-2305)</td>
<td>Letter of acceptance MSc Sustainable Development, or others with a policy related social science background. Actively participated in Foundations of ESG Research or Policy Analysis (GEO4-2306) or Governance Theories (GEO4-2332).</td>
</tr>
<tr>
<td></td>
<td>Non-SUSD students should contact the course coordinator before registering for the course.</td>
</tr>
<tr>
<td></td>
<td>Recommended prerequisites: Knowledge on policy analysis and governance theories.</td>
</tr>
<tr>
<td>Foundations of Earth System Governance Research (GEO4-2306)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Innovation Sciences or MSc Sustainable Business &amp; Innovation or MSc Energy Science.</td>
</tr>
<tr>
<td>Environmental Change Theories (GEO4-2310)</td>
<td>None</td>
</tr>
<tr>
<td>Policies for Energy &amp; Materials Transitions (GEO4-2311)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Science and Innovation Management or MSc Innovation Sciences or MSc Energy Science or MSc Sustainable Business &amp; Innovation or MSc Earth Sciences. Recommended prerequisites: Tools for Energy &amp; Materials Analysis(GEO4-2326)</td>
</tr>
<tr>
<td>Course</td>
<td>Prerequisites/Requirements</td>
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<tr>
<td>Sustainable Energy Supply (GEO4-2312)</td>
<td>Recommended prerequisites: Applied Thermodynamics (GEO2-2212), Energy Analysis (GEO3-2223) or Tools for Energy &amp; Materials Analysis (GEO4-2326) or equivalent courses. <strong>This course is not available to Energy Science students.</strong></td>
</tr>
<tr>
<td>Research Design (GEO4-2314)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Water Science and Management.</td>
</tr>
<tr>
<td>Tailor-made course SUSD (GEO4-2320)</td>
<td>- Letter of acceptance MSc Sustainable Development, and - At least 45 EC passed within the programme Students in the SUSD-Joint Programme will need to have passed 45 EC, including one of the mobility tracks.</td>
</tr>
</tbody>
</table>
| Master’s Thesis SD (GEO4-2321)        | - Letter of acceptance MSc Sustainable Development, and - At least 60 EC passed within the program, including: • Perspectives on SD (GEO4-2301) • Sustainability Modelling & Indicators (GEO4-2331) • Research Design (GEO4-2314) And: - at least two track-specific courses of which 1 methods course (at least 15 EC in total). These are specified per track: For track E&M: - Tools for E&M Analysis (GEO4-2326) And 1 out of 3: - Sustainable Energy Supply (GEO4-2312) - Energy & Materials Efficiency (GEO4-2324) - Policies for E&M Transitions (GEO4-2311) For track ECE: - Environmental Systems Analysis (GEO4-2303), and - Environmental Change Theories (GEO4-2310) For track ESG: - Research Strategies ESG (GEO4-2304) And 1 out of 2: - Policy Analysis or Foundations of
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG Research (GEO4-2306)</td>
<td>- Governance theories (GEO4-2332)</td>
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<tr>
<td>For track ID:</td>
<td>- Advanced M&amp;T Development Studies (GEO4-3518)</td>
</tr>
<tr>
<td>And 1 out of 2:</td>
<td>- Development themes (GEO4-3510)</td>
</tr>
<tr>
<td></td>
<td>- Development Theories (GEO4-3505)</td>
</tr>
<tr>
<td>Students in the SUSD-Joint Programme must have</td>
<td>have passed 60 EC, including one of the mobility tracks.</td>
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<tr>
<td>Environmental Ethics &amp; Sustainable Development (GEO4-2323)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Innovation Sciences or MSc Sustainable Business &amp; Innovation or MSc Energy Science or MSc Water Science and Management</td>
</tr>
<tr>
<td>Energy &amp; Materials Efficiency (GEO4-2324)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Energy Science or MSc Earth Sciences. Recommended prerequisite: Energy Analysis (GEO3-2223) or Tools for Energy &amp; Materials Analysis (GEO4-2326) or equivalent.</td>
</tr>
<tr>
<td>Current and Future Geo-Energy Resources (GEO4-2325)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Energy Science or MSc Sustainable Business &amp; Innovation or MSc Earth Sciences. This course cannot be combined with GEO4-1441, GEO4-1517A, GEO4-1425 and GEO4-1437</td>
</tr>
<tr>
<td>Tools for Energy &amp; Materials Analysis (GEO4-2326)</td>
<td>Recommended prerequisite: Energy Analysis (GEO3-2223) or similar course. This course is not available to Energy Science students.</td>
</tr>
<tr>
<td>Climate Systems and Adaptation (GEO4-2327)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Water Science and Management or MSc Science and Innovation Management or MSc Innovation Sciences or MSc Energy Science or MSc Sustainable Business &amp; Innovation (MSc Science Communication on request)</td>
</tr>
<tr>
<td>Analysing Governance Practices (GEO4-2328)</td>
<td>Letter of acceptance to the master programme Sustainable Development. Actively participated in Foundations of ESG Research or Policy Analysis (GEO4-2306) and Governance Theories (GEO4-2332)</td>
</tr>
<tr>
<td>Course</td>
<td>Prerequisites</td>
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<td>-------------------------------------------------------------------------------</td>
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<tr>
<td>Sustainability Modelling &amp; Indicators (GEO4-2331)</td>
<td>Letter of acceptance MSc Sustainable Development or MSc Water Science and Management or profile Complex Systems. Recommended prerequisites: Perspectives on Sustainable Development (GEO4-2301)</td>
</tr>
<tr>
<td>Governance Theories (GEO4-2332)</td>
<td>Letter of acceptance MSc Sustainable Development.</td>
</tr>
<tr>
<td>Research Project ECE (GEO4-2335)</td>
<td>- Letter of acceptance MSc Sustainable Development.</td>
</tr>
<tr>
<td></td>
<td>- Environmental Change Theories (GEO4-2310)</td>
</tr>
<tr>
<td></td>
<td>- Actively participated in the course Research Design (GEO4-2314)</td>
</tr>
<tr>
<td>Internship ID (GEO4-2336)</td>
<td>- Letter of acceptance MSc Sustainable Development.</td>
</tr>
<tr>
<td></td>
<td>- Advanced M&amp;T Development Studies (GEO4-3518)</td>
</tr>
<tr>
<td></td>
<td>- Development Theories (GEO4-3505), or Development Themes (GEO4-3510)</td>
</tr>
<tr>
<td></td>
<td>The internship must be approved in advance by the coordinator.</td>
</tr>
<tr>
<td>Development Theories (GEO4-3505)</td>
<td>Letter of acceptance MSc International Development Studies or MSc Sustainable Development. Exclusively for IDS master students &amp; students in the Sustainable Development - ID track.</td>
</tr>
<tr>
<td>Development Themes (GEO4-3510)</td>
<td>Letter of acceptance MSc International Development Studies or MSc Sustainable Development. Exclusively for IDS master students &amp; students in the Sustainable Development - ID track.</td>
</tr>
<tr>
<td>Advanced Methods &amp; Techniques Development Studies (GEO4-3518)</td>
<td>Letter of acceptance MSc International Development Studies or MSc Sustainable Development. Exclusively for IDS master students &amp; students in the Sustainable Development - ID track. Recommended pre-requisites: Knowledge of research design in social science at intermediate level. Knowledge of quantitative data analysis i.e. descriptive statistics; bivariate analysis; correlations.</td>
</tr>
</tbody>
</table>

* For students in the Joint International Master in Sustainable Development programme, admission to courses will be judged on an individual basis, based on previous education and interests.
### Other restrictions

<table>
<thead>
<tr>
<th>Course</th>
<th>Max. participants</th>
<th>Other restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO4-2301: Perspectives on Sustainable Development</td>
<td>-</td>
<td>Only open for SUSD and WSM</td>
</tr>
<tr>
<td>GEO4-2302: TCS</td>
<td>-</td>
<td>Only open for SUSD and WSM</td>
</tr>
<tr>
<td>GEO4-2303: Environmental Systems Analysis</td>
<td>-</td>
<td>Open access</td>
</tr>
<tr>
<td>GEO4-2304: Research Strategies ESG</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
<tr>
<td>GEO4-2305: Int. Gov. For SD</td>
<td>-</td>
<td>Open access (only social sciences)</td>
</tr>
<tr>
<td>GEO4-2306: Foundations of ESG Research</td>
<td>-</td>
<td>Only open for SUSD, IS, ES and SBI.</td>
</tr>
<tr>
<td>GEO4-2310: Environmental Change Theories</td>
<td>-</td>
<td>Open access</td>
</tr>
<tr>
<td>GEO4-2311: Policies for Energy &amp; Mat. Transitions</td>
<td>-</td>
<td>Only open for SUSD, IS, ES, SBI and MSc Earth Sciences</td>
</tr>
<tr>
<td>GEO4-2312: Sust. Energy Supply</td>
<td>-</td>
<td>Not for Energy Science</td>
</tr>
<tr>
<td>GEO4-2314: Research Design</td>
<td>-</td>
<td>Only open for SUSD and WSM</td>
</tr>
<tr>
<td>GEO4-2320: Tailor made course SUSD</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
<tr>
<td>GEO4-2321: thesis SD</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
<tr>
<td>GEO4-2323: Env. Ethics</td>
<td>80</td>
<td>Only open for SUSD, IS, ES, SBI and WSM</td>
</tr>
<tr>
<td>GEO4-2324: Energy &amp; Material Efficiency</td>
<td>-</td>
<td>Only open for SUSD, IS, SBI, ES and MSc Earth Sciences</td>
</tr>
<tr>
<td>GEO4-2325: Current and Future Geo-Energy Res.</td>
<td>-</td>
<td>Only open for SUSD, ES, SBI and MSc Earth Sciences</td>
</tr>
<tr>
<td>GEO4-2326: Tools for E&amp;M Analysis</td>
<td>-</td>
<td>Not for Energy Science</td>
</tr>
<tr>
<td>GEO4-2327: Climate System &amp; Adaptation</td>
<td>-</td>
<td>Only open for SUSD, ES, SBI, IS, WSM, (and MSc Science Communication upon request)</td>
</tr>
<tr>
<td>GEO4-2328: Analysing Governance Practices</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
<tr>
<td>GEO4-2331: Sustainability Modelling &amp; Indicators</td>
<td>-</td>
<td>Only open for SUSD and WSM</td>
</tr>
<tr>
<td>GEO4-2332: Governance Theories</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
<tr>
<td>GEO4-2335: Research Project ECE</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
<tr>
<td>GEO4-2336: Internship ID</td>
<td>-</td>
<td>Only open for SUSD</td>
</tr>
</tbody>
</table>

*For students in the Joint International Master in Sustainable Development programme, admission to courses will be judged on an individual basis, based on previous education and interests.*
Exclusions:

<table>
<thead>
<tr>
<th>Students that passed the course:</th>
<th>... are not allowed to take the course:</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO4-2325</td>
<td>GEO4-1441/1517A/1425/1437</td>
</tr>
<tr>
<td>GEO4-2327</td>
<td>GEO4-4423</td>
</tr>
<tr>
<td>GEO4-1441/1517A/1425/1437</td>
<td>GEO4-2325</td>
</tr>
<tr>
<td>GEO4-4423</td>
<td>GEO4-2327</td>
</tr>
</tbody>
</table>

2.11 Conversion of former courses

Please notice that some of the courses from the programme 2017-2018 and before have been replaced or renamed. The following courses from 2017-2018 and earlier are replaced or renamed as follows:

<table>
<thead>
<tr>
<th>Old course</th>
<th>New course 2018-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Methods ESG (GEO4-2304)</td>
<td>Research Strategies ESG (GEO4-2304)</td>
</tr>
<tr>
<td>Policy Analysis (GEO4-2306)</td>
<td>Foundations of Earth System Governance Research (GEO4-2306)</td>
</tr>
<tr>
<td>Fossil Resources (GEO4-2325)</td>
<td>Current and Future Geo-Energy Resources (GEO4-2325)</td>
</tr>
</tbody>
</table>
3. Didactics, study planning and supervision

3.1 Educational format

Activating education
The educational philosophy of the Master’s programme is problem-orientated, which calls for a proactive teaching format. Problem-orientated education takes a concrete problem as the point of departure for the learning process. The acquisition of knowledge and skills is related to the analysis and/or solution of the problem in question. “Activating education” is a form of teaching whereby the students themselves are largely in control of the learning process. They take their education into their own hands by doing individual or group assignments, taking part in debates or simulation games, and applying the methods they have learned. A proactive educational format calls for intensive back-up on the part of the instructor in the form of study guidelines, instructions, manuals, and feedback on the students’ performance. The students mainly work in small groups.

Active input of instructors and students
The objective of the Master’s programme is to offer an inspiring and high-quality environment for study. The goal is to work together with the student to maximise the transfer of knowledge. All of the instructors and support staff involved in the programme operate on the assumption that if the student is fully dedicated to the study, they can offer the greatest possible guarantee that the student will pass all of the individual courses.

Required attendance
For various parts of the study, attendance is mandatory. This applies to working groups, field trips, simulation games, etc. The course manual for each course stipulates exactly which sessions the student is required to attend. As stated in article 4.4 of the Education and Examination regulations, exceptions to mandatory attendance can only be made if the student can prove that his absence is due to reasons beyond his control (special circumstances due to e.g. illness or family circumstances).

Report ill in time
If the student cannot attend a preliminary or other exam, obligatory lecture or working group, he/she must register their absence via: https://www.formdesk.com/universiteitutrecht/AbsenceForm prior to the meeting, and by 9.30 a.m. at the latest.

Absence or illness does not relieve you of your obligation to perform to the best of your ability. In other words, if you have not been able to complete a paper or give a presentation, contact the Course Coordinator to find out if it can be rescheduled for another date.

If the quality or quantity of your attendance has been insufficient, the Course Coordinator may exclude you from the remainder or part of the course.

Testing
There are multiple points during a course in which the student is tested. Thus, the final evaluation for a course does not depend solely on a final exam. As a rule, there are opportunities for feedback and improvement, depending on how the course is designed. These opportunities are set forth in the course manual. If during the course the student satisfies all the effort requirements and does not receive a satisfactory grade but does receive a final grade of at least 4,00 before rounding, he or she will be given one opportunity to take a supplementary test. The specifics can be found in the Education and Examination Regulations and the course manuals.
Plagiarism, Code of Originality
Sustainable Development is a research oriented Master’s programme, which means that its students are taught how to perform scientific research and which demands their approach and results need to meet. Since science is about developing new knowledge, in all phases of the Master’s programme, much attention is paid to the originality of the students' achievements, for instance with the aid of advanced software. All scientific research, including that of a student, builds on the results of the work of other researchers, either in positive or in negative sense. Those other researchers deserve the credits for their work, in the form of a correct acknowledgement.

In short: quoting is allowed (and even necessary), but copying other researchers' work and presenting it as if it were one's own, is plagiarism: a huge sin in science, and therefore students have to sign a Statement of Originality when they submit the Master’s thesis. Students who plagiarise, run tremendous risks: in the worst case scenario they are expelled from the programme for a year. The Education and Examination Regulations of the programme lists the sanctions with which a student who is caught plagiarising will be confronted.

3.2 Study management and supervision

3.2.1 Introduction for new students

There will be an introduction for Master novices in the first week of their first semester, organised by SUSD and its study association Storm. Both social issues and general information will be presented during this introduction. Its objective is to help new students feel at home at the Master's programme SUSD and the faculty, as soon as possible. Focus will be on meeting your fellow students, getting to know the SUSD-programme itself, its professors, mutual rights and obligations, information desks and the buildings where you will spend much of your time in the next couple of years.

3.2.2 Study planning and advice

Three individuals play a key role in planning and supervising a student’s study: the programme leader (dr. Paul Schot), your track coordinator and the Study Advisor, Jana Scheuer MSc.

The coordination between the common SD courses and between the four tracks is done by the programme leader. Naturally, you may contact the programme leader, but usually the professor of the course, the track coordinator or the Study Advisor will be able to help you.

The track coordinators advise their students on the programme they will be taking and the choices that can be made within that programme. These choices pertain to elective courses and options for internships and thesis research, for instance. If you would like to receive advice first, you can contact the study advisor.

During your entire programme, you can go to the Study Advisor, Jana Scheuer MSc, for neutral and confidential advice on everything that is related to your studies. This can be on issues that are directly study-related, for example study delay, electives, dissatisfaction with the programme, or a potential conflict with a teacher or supervisor. But you can also discuss more personal issues that might be of influence on your progress, such as illness, disability, pregnancy, family circumstances, top-class sports, motivation issues, et cetera. When necessary, the Study Advisor can refer you to a Student Counsellor, Student Psychologist, or for example a study skills class.
In the unfortunate situation that you expect to suffer study delay due to personal circumstances, it is important to contact the Study Advisor as early as possible. Together you can discuss how you could deal with these circumstances and perhaps the programme could offer you a concession (e.g. extra time for an exam or paper).

The Study Advisor is located in the Koningsberger building, room 1.20D and available on Wednesday till Friday. Students can make an appointment by phone via the secretary’s office: 030 253 1625 or 030 253 2359 or via Studyadvisor.copernicus@uu.nl.

The Study Advisor is a member of the Dutch National Society of Study Advisors and works according to the code of conduct of this professional society, see www.lvsa.nl for details.

The Study Advisor is in regular contact with other Study Advisors of the Faculty and University, which makes peer feedback and cooperation possible. If the Study Advisor is not available due to illness or holiday and you urgently need a confidential consult, please feel free to contact any of the other Study Advisors of the Faculty of Geosciences. You can find their contact details here: https://students.uu.nl/en/academics/study-abroad/faculty-information/geosciences.

3.3 Course registration and automatic graduation

3.3.1 Semesters and blocks

Classes take place during two semesters, each of which can be divided into two blocks, or periods of 9 or 10 weeks. In Appendix IV and V you will find the start and end dates of each block for this academic year.

3.3.2 Timeslots

At Utrecht University a so-called timeslotmodel is used to schedule courses to fit into fixed parts of the week. Using this model prevents overlap in a schedule. In this way it is easy to see if two courses can be taken in the same period.

The Utrecht University timeslotmodel consists of five slots (A, B, C, D, E).

Timeslot A = Monday morning and Wednesday morning
Timeslot B = Tuesday morning and Thursday afternoon
Timeslot C = Monday afternoon and Thursday morning
Timeslot D = Wednesday afternoon and Friday
Timeslot E = Monday evening until Friday evening

Morning = 09.00-12.45 hours, afternoon = 13.15-19.00 hours, evening = 18.00-21.45 hours.

Periods and timeslots have been put into the course schedule (§ 4.1). Changes to the course schedule are still possible. The final scheduling (time and lecture room) of each course will be made public via: http://students.uu.nl/en/geo/susd/academics/schedules. Also check the Blackboard e-learning environment of your course for latest changes in the course programme.
3.3.3 Course registration

In order to participate in a course, you need to be registered for it: if you are not, you will not have access to the course and its supporting facilities such as Blackboard; neither will results be registered. No registration = no participation = no result.

As a student, course registration is your own responsibility! You decide which courses (elective and mandatory) you want to take in each block. Keep in mind possible entrance requirements to a course; students that do not adhere to entrance requirements cannot register for the course and/or will be removed from the course.

Course registration is only possible via internet, www.uu.nl/Osirisstudent and only within the official registration periods, which usually fall in the beginning of the previous block (for the dates of the Faculty of Geosciences, please see Appendix V). You can register for no more than 2 courses (15 EC) of the Faculty of Geosciences per period (code GEO*-*). Students that register on time are generally secured of a place in the course; however, courses that have a limited capacity have certain placement rules. Just before the start of the block, there are 2 days for late registration, in case you want to switch courses. Please note: this is only possible for courses that are not full yet; participation is therefore not guaranteed.

If you want to register for a course outside the Faculty of Geosciences, there could be different registration dates; at some Faculties, students register only once per semester.

Each period you can register for a maximum of two courses (15 EC) of the Faculty of Geosciences via Osiris (code GEO*-*). Any student that wants to take a third course, needs permission of the programme. If the 3rd course is a course of one of the Master’s programmes of the department of Innovation, Environmental and Energy Sciences (IS, SUSD, ES, SBI or WSM; codes GEO4-22**, GEO4-23**, GEO4-25**, GEO4-26** and GEO4-60**), you can fill out a digital form on https://fd8.formdesk.com/universiteitungrecht/additionalcourseGEO.

Please note:

- This registration form needs to be submitted during the regular registration period. During the late registration ("na-inschrijving") it is no longer possible to apply for an additional course.
- You have to be enrolled for your other courses in Osiris before submitting your request for an additional course.
- The additional course should be a course from your own major programme/department.
- Students are not allowed to participate in more than one course in the same timeslot.
- Enrolment in an additional course may be declined by the Director of Education in case of insufficient study progress and/or insufficient capacity for a course.

After the regular registration period and during late registration periods, no requests for taking a 3rd course will be dealt with and therefore they will always be denied. Only as an exception and based on sufficiently important reasons will the programme allow a student to take three courses in one period.

A request for taking a 3rd course will need to address the criteria mentioned below and these will be checked:

- Motivation: what is the student’s motivation?
- Circumstances: are there any special, personal circumstances?
- Urgency: is it, at this point in time, necessary that the student takes three courses at once?
- Feasibility: can the student handle taking three courses at the same time? The following issues will be looked at in order to check this criterion:
  o Study progress.
  o Study results so far.
  o Has the student taken three courses before and if so, were they all completed successfully?
- Is the Master’s thesis one of the three courses the student wishes to take? If this is the case, the request will not be granted.
- Timeslot: if the 3rd course falls in the same timeslot as any of the other courses you will be taking, the request for a 3rd course will never be granted.

Students that do not adhere to the registration periods can only under very special circumstances be placed in a course after permission from the Board of Examiners, which can be reached via examencommissie.geo@uu.nl. Always give your student number when communicating with the Board of Examiners. The Board of Examiners (NOT the lecturer of the course) decides whether you have a valid reason for not registering during the registration periods. If the Board of Examiners decides you do not have a valid enough reason, you cannot attend a course and no course results will be registered.

In other words: register early, as early as possible, for the courses that you want to take in the next block! This also applies to the obligatory courses!

### 3.3.4 Automatic graduation

When you are due to finish your programme, you will receive a message from the student administration about your graduation. After it has been verified that you have fulfilled all requirements of your programme, the Board of Examiners will be asked to judge your file. Please note: in order to graduate, you need to have fulfilled all requirements: all grades are known and registered in Osiris, you have paid all tuition fees, hard copies of any earlier decisions taken by the Board of Examiners have been handed in to Student Affairs Geosciences (if applicable) and you have uploaded your thesis to Scripties Online, see [https://osiris.library.uu.nl/scrol2/index.html?ou=GEO](https://osiris.library.uu.nl/scrol2/index.html?ou=GEO). Under certain conditions, it is possible to postpone your graduation, see article 6.1.6 of the Education and Examination Regulations 2018/2019.

In order to actually receive your degree certificate or to pick it up at the Student Affairs office, you need to fill out an exam-registration form. If you want to attend a graduation ceremony, strict deadlines regarding registration and handing in of any documents will be maintained.

Automatic graduation does not mean you will be de-registered automatically from the programme. You will need to take care of this yourself and this cannot be done until you have received formal confirmation of your graduation from the Board of Examiners.

### 3.4 MyTimetable and MyUU App

Utrecht University has two main channels that allow you to look into the schedule of your course. The schedules are published on those channels two weeks before the start of the course. Along with viewing the complete schedule of your courses it is also possible to check the schedule of your own group, as soon as the lecturer informed you on the division of the groups. You can log in with your Solis-ID and password.
You can make use of MyTimetable (https://mytimetable.uu.nl) on your browser. Along with a more clear representation of the schedule, it is also possible to synchronise your own schedule with your diary.

On your smartphone you can use the MyUU-app. Download this application and always have your schedules and grades from Osiris at hand. The MyUU-app is available for Android and iOS.

3.5 Study abroad

Studying abroad means broadening your horizon, meeting new people, exploring different cultures, and expanding your field of study. If you are interested in going abroad there are many possibilities. You can follow courses, do an internship or conduct research. Make use of what the university in general, but the Faculty of Geosciences in particular, has to offer you.

A lot to organise?!
Don’t worry, just make sure to start planning your period abroad in time. Do you want to study abroad? Start via the International Office Online: http://students.uu.nl/en/academics/study-abroad.

Answer these questions:

- Where would you like to go to?
- What do you want to do?
- Does this university have an agreement with UU?
- Which courses would you like to attend?
- When would you like to go?

Once you have found an answer to these questions, contact your Study Advisor to connect your period abroad to your study plan in Utrecht. Please ask also permission from your Master programme leader.

After you have consulted with your Study Advisor, The International Office of Geosciences is there to guide your through the process. For all your practical questions, please contact international.geo@uu.nl or visit Student Affairs / International Office on the 1st floor of the Victor J. Koningsberger building. Open daily apart from Wednesdays from 10.30-11.30 and 12.30-14.30 hrs or by appointment.

Besides, please visit our study association EGEA (Buys Ballot building, room 2.74), or visit http://www.egea.eu/entity/utrecht. EGEA members generally have a lot of experience with studying abroad. They can help you out with a lot of practical matters (such as housing, experiences and tips & tricks).

In October and November several orientation meetings take place organised by the International Office. For more information, look for more information or dates at this website: https://students.uu.nl/en/academics/study-abroad/faculty-information/geosciences.

Practical matters
Once you’ve decided to study abroad, you can apply through the regular procedure. Please do keep in mind the deadlines for application! More information about how to apply and which deadline to bear in mind can be found on the website: https://students.uu.nl/en/academics/study-abroad. For faculty destinations, go to destinations and select Geosciences. For the Faculty International Office website,
Good to know

- Eligible for studying abroad during their master are all students with formal permission from their programme coordinator. To obtain permission please use the 'study plan for studying abroad' (available via: http://students.uu.nl/en/academics/study-abroad/step-2-application-at-uu).
- After your programme coordinator has signed the study plan, upload it in Osiris.
- Credits obtained at partner universities can quite often easily be transferred to your academic record in Utrecht: study abroad doesn’t necessarily cause delay in your programme!
- If your destination is within Europe, either for courses (exchange) or an internship, you are eligible for an ERASMUS grant. Monthly financial support to make your study abroad easier than it already is. More information can be found on https://students.uu.nl/en/academics/study-abroad/funding-grants/erasmus-grants.
- If your destination is outside Europe, please have a look at www.beursopener.nl and find out if you are eligible for the options mentioned.
- If you’re going abroad, you’d better put your public transport (OV) student chip-card on hold (public transport card for Dutch students). By doing this, you can apply for a monthly travel allowance. Forms for this allowance are to be signed by the Student Affairs office/International Office.

3.6 Student Affairs Office Geosciences and Student Services

The Student Affairs Office Geosciences is the primary point of contact for students in the faculty of Geosciences. It provides students with general information and answers questions about registration for courses, course timetables, examinations, grades and credits, etc.

Student Affairs Office Geosciences is situated at the Victor J. Koningsberger building, Budapestlaan 4a-b, Tel: +31-30-253 9559. 
Opening hours: Monday – Friday: 10.30-11.30h and 12.30-14.30h.
During academic holidays opening hours may be limited.
Internet: http://students.uu.nl/en/geo
E-mail: studentaffairs.geo@uu.nl

You can contact Student Services for information on a wide range of issues relating to studying and student life. This includes admission, application and enrolment, tuition fees, financial assistance, working alongside your studies, insurance, schemes and facilities for outstanding student athletes, student housing and student organisations and information about studying with a disability or chronic illness.

If you have questions about your study programme, schedules, student progress review, examinations, exemptions, study abroad and your graduation: please contact the Student Affairs office Geosciences.

Contact details Student Services:
E-mail: studentservices@uu.nl (please mention your student number!)
Tel: + 31 30 253 7000 (Monday to Friday 10-12 am and 1-3 pm)
Fax: + 31 30 253 2627

Visitors’ address: Heidelberglaan 6, De Uithof (Monday to Friday 10 am - 4 pm)
Postal address:
Student Services
Postbus 80125
3508 TC Utrecht
The Netherlands

For questions about ICT you can send an email to servicedesk@uu.nl.

3.7 Responsibility for the programme

Board of Studies
Within the Utrecht Graduate Division (UGD) the Master’s programme Sustainable Development is part of the Graduate School of Geosciences, to which all Master’s students and PhD-students of the Faculty of Geosciences belong. The School supervises the quality of the programme and the admission of its students. All Directors of Education and Directors of Research of the Faculty of Geosciences are members of the Graduate Board of Studies, as well as a PhD student and a student from one of the MSc programmes of the Faculty. Chairman is the dean of the Faculty, prof. dr. Piet Hoekstra; the Board’s secretary is mr. Diederik Gussekloo (d.gussekloo@uu.nl).

Master Education Committee
This is a joint committee of chosen students and lecturers appointed by the dean to advise on the rules on teaching and examination and its implementation and about other matters concerning the programmes of study, such as quality assurance. Its secretary is Ms. Jana Scheuer MSc (j.scheuer@uu.nl).

Board of Examiners
The Board of Examiners is responsible for the examination of students. The Board of Examiners will determine the examination results as soon as the student has submitted sufficient proof of the tests taken. This Board also decides about deviations (e.g. exemptions) in the programme and the approval of elective courses (see Appendix I of this catalogue). Requests about exemptions, elective courses or other issues for the Board of Examiners, can be addressed to the secretary of the Board’s chamber for the Copernicus Institute, Mrs. drs. Erika Dijksma (examcommissie.geo@uu.nl). Always include your student number when contacting the Board of Examiners. In 2018/2019 the Board of Examiners consists of:
Prof. dr. E. Moors (chair)
Prof. dr. G. Kramer
Prof. dr. J. Griffioen
Dr. W. Vermeulen
Dr. A. Peine
Drs. E. Dijksma (secretary)

Teaching Institute
The Teaching Institute of the Copernicus Institute is responsible for the organisation, coordination and quality assurance of the educational elements of the various courses offered by the department. The Director of Education, dr. Jacco Farla, is the Teaching Institute’s head and is assisted by a management team, which includes the programme leaders of the Bachelor’s and Master’s programmes. The programme’s leader, dr. Paul Schot, is responsible for the management of the programme Sustainable Development.

Complaints
If you have a complaint or a suggestion, there are various courses of action available. You may opt for an informal approach: finding out whether the faculty Student
Services can deal with your complaint, suggestion or comment about education and related issues. If this is not possible in the short term, it will ensure that your complaint is passed on to the appropriate person. You can also approach the person who caused the problem and attempt to reach an amicable solution with them.

If you consider the complaint to be serious enough, or if it has not been solved to your satisfaction, you can submit a formal complaint. Formal complaints are submitted using the digital complaints form. Your complaint will be dealt with by the faculty complaints coordinator.

The formal complaints procedure will then take place as follows:
- A copy of the complaint will be sent to the person to whom the complaint refers.
- The complaints coordinator in the faculty of Geosciences will ask both you and the person you are complaining about for an explanation/reaction (i.e. you will both be ‘heard’).
- The complaints coordinator then draws up recommendations for the Dean of the faculty.
- The Dean will consider the complaint formally.

Dealing with the complaint must take no longer than 10 weeks. It is, of course, possible for a solution to be found during the procedure. The procedure can then be terminated.

The Geosciences complaints coordinator is Mrs. Franca Geerdes (f.geerdes@uu.nl).

More information on complaints, objections and appeals can be found here: https://students.uu.nl/en/practical-information/policies-and-procedures/complaints-objections-and-appeals.

3.8 Evaluation and quality assurance

The Faculty of Geosciences values the high quality of its programmes and has therefore set up a quality assurance system. Quality assurance provides information about the quality of individual courses and the programme as a whole, study climate and students’ progress and performance. Its most important goals are improving education and organisation, and making the quality of the programme more visible.

One part of quality assurance which you as a student will be dealing with regularly are evaluations. Every course is evaluated afterwards and the results of this course evaluation are discussed in the Education committee and the Management team of the programme. It provides important information for the lecturer to improve his/her course. All Geosciences students may view the evaluation results of the Faculty of Geosciences on Blackboard. You can use this if e.g. you need to make a choice about electives.

During the running of the course, we also work on improving quality. Course feedback groups are active in each course in order to mend any problems early on. For each course, such a group consists of 4-5 students that meet up with the lecturer in the break and talk about the course so far. Its purpose is to find out what is being appreciated, what is going well and what practical issues can be improved. This does not concern aspects which are already fixed, such as the choice of literature, set up of tutorials or class times. It’s all about fine-tuning, e.g. are the lecture slides readable, can everyone hear the lecturer, has information been put on Blackboard on time, etc. In the study guide of the course you can find further information about the course feedback group in your course.
Finally, at the end of each academic year (May/June) a written year evaluation is carried out among the students. The year evaluation it is not about an individual course but about issues that transcend the course, such as coherence/set-up of the programme, electives, workload and effort, level, thesis supervision, challenge, atmosphere and lecturers.

The results of the year evaluation will be discussed in panel meetings with the education director, programme leaders and a student delegation.

3.9 Career perspectives and Career Services

The Master’s programme prepares students for a PhD study, as well as for positions in the private and public sector that do not directly involve academic research.

A PhD study is a preferable option for students that want to pursue a professions in scientific research. Roughly 20% of our graduates pursue a PhD study. The PhD track at the Copernicus Institute is accessible to a limited number of persons with a Master’s degree. The Copernicus Institute participates in the Dutch national research school Socio-Economic and Natural Sciences of the Environment (SENSE). Graduates of the Master’s programme in Sustainable Development will also be able to enter other research schools in the PhD track. Other possibilities in the Netherlands are research institutes such as the Netherlands Environmental Assessment Agency (PBL), Energy Research Centre Netherlands (ECN) or comparable institutes in other countries.

The societal orientation of the Master’s programme also makes it an excellent starting point for positions that do not directly involve academic research. Roughly 80% of our graduates find employment in the private sector (consultancy firms, companies), the public sector (national, regional, and local government), and NGOs. In the course of their career, the graduates should be able to fill managerial positions, notably with respect to the integration of knowledge and policy and in the field of change management (particularly of complex processes of societal change).

The graduates are also expected to be able to find good jobs in the international market (international consultancy, EU, UN, NGOs). The Netherlands is one of the frontrunners in Europe concerning environmental and energy research and consultancy and in multidisciplinary education on the environment. So far, the graduates and PhD candidates have been living up to expectations.

Alumni network
Our alumni have an active community, the Utrecht University Environmental Sciences Network (UUESN). You can follow them on LinkedIn: http://www.linkedin.com/groups?mostPopular=&gid=106586. This group functions as a virtual meeting place for students, alumni and staff.

Career Services
The start of your Master’s programme will also be the start of your career. Job-market orientation may be provided within your Master’s programme through a.o. guest lecturers from societal organisations, company visits, and meeting alumni. An internship will help you familiarise yourself with a company or organisation and will give you the experience of your first step in the labour market.

The activities offered by Career Services enable you to get prepared for the future after your graduation. Career Services offers workshops and special training programmes to discover your talents, interests and motivation while you are doing your Master’s programme. You can also plan a meeting with a career officer to discuss your aspirations, and attend the Career Days organised by Career Services.
3.10 Storm, SD’s study association

Storm is the study association for students at Utrecht University in the Bachelor’s programmes Environmental Sciences, Environmental Studies and Global Sustainability Science and the Master’s degree programmes for Environmental Sciences, which covers Sustainable Development and Water Science and Management. Storm was found in 1991 by a few enthusiastic students who wanted to support the degree programme Environmental Sciences and wanted to improve the contacts between students and between students and lecturers. Almost all Environmental Sciences students are a member of Storm, not only because of all the fun and study-related activities but also because of the discount on the textbooks that Storm supplies (membership costs are 20 euros for your entire master). The gathering place for Storm-members is their own room on the University campus where members can come and drink a cup of tea or coffee and crash on one of the couches for a chat.

Storm has several different committees which provide a large range of activities. There are the splendid parties, drinks, barbecues and other relaxing activities. Storm also organises debating evenings, excursions, a career day and other study related activities. Special attention to Master’s students is paid by Storm’s Master committee, which organises activities aimed at the interests of Sustainable Development and Water Science and Management students. If you are interested in participating in a committee or joining one of the many Storm activities please send an email to bestuur@stormutrecht.nl.

Storm is the ideal place for students to combine study and leisure. Do you want to know more about environmental issues outside study hours, or do you want to get to know your fellow students and join in interesting activities? Then drop by the Storm room, in the Buys Ballot building (room 2.79), open from 10.30 – 16.00!

Telephone: 030 253 2164, e-mail: bestuur@stormutrecht.nl, website: http://storm.geo.uu.nl
# 4 Course information

## 4.1 Course schedule 2018-2019

Slot A = Monday morning and/or Wednesday morning  
Slot B = Tuesday morning and/or Thursday afternoon  
Slot C = Monday afternoon and/or Thursday morning  
Slot D = Wednesday afternoon, Friday morning and/or Friday afternoon  
Slot E = Monday evening, Tuesday evening, Wednesday evening, Thursday evening and/or Friday evening

**Bold** = mandatory SUSD  
**Normal** = mandatory track course  
**Italic** = mandatory elective within track  
[ ] = free elective

### Year 1 (intake 2018)

| Period 1 | **(A+B) Perspectives on Sustainable Development, GEO4-2301** | **EM:** (C) Tools for Energy & Materials Analysis, GEO4-2326  
**ECE:** (C) Environmental Change Theories, GEO4-2310  
**ESG:** (C) Foundations of ESG Research, GEO4-2306  
**ID:** (D) Development Themes, GEO4-3510 |
| --- | --- | --- |
| Period 2 | **(C) Sustainability Modelling & Indicators, GEO4-2331** | **EM:** (B) Sustainable Energy Supply, GEO4-2312  
**ECE:** [Free elective]  
**ESG:** (B) Governance Theories, GEO4-2332  
**ID:** (B) Advanced Methods & Techniques Development Studies, GEO4-3518 |
| Period 3 | **(C) Research Design, GEO4-2314** | **EM:** [Free elective]  
**ECE:** (A+B) Environmental Systems Analysis, GEO4-2303  
**ESG:** (D) Research Strategies ESG, GEO4-2304  
**ID:** [Free elective] |
| Period 4 | **EM:** (C) Policies for Energy and Materials Transitions, GEO4-2311  
**ECE:** (A+C) Research project ECE, GEO4-2335  
**ESG:** (C) Analysing Governance Practices, GEO4-2328  
**ID:** (A/B/C/D) Internship ID, GEO4-2336 | **EM:** [Free elective]  
**ECE:** (A+C) Research project ECE, GEO4-2335  
**ESG:** (B) International Governance for SD, GEO4-2305  
**ID:** (A/B/C/D) Internship ID, GEO4-2336 |
### Year 2 (intake 2017)

| Period 1 | **(D) Transdisciplinary case study, GEO4-2302** | **EM**: (B) Energy & Material Efficiency, GEO4-2324  
**ECE**: [Free elective]  
**ESG**: [Free elective]  
**ID**: [Free elective, e.g. (C) Development Theories, GEO4-3505] |
| --- | --- | --- |
| Period 2 | **Master’s thesis SD, GEO4-2321**  
+ Extended thesis, or extra free electives (15 EC) |
| Period 3 |  |
| Period 4 |  |

Possibly interesting electives Copernicus Institute:  
GEO4-2323: Environmental Ethics (1A)  
GEO4-2327: Climate System and Adaptation (2B)  
GEO4-2325: Current and Future Geo-Energy Resources (3A)
Appendices
Appendix I Rules for choosing free elective courses

1. Students in the Master’s programme choose free elective courses from another or their own Master’s programme. Courses that are obligatory in the exam programme cannot be used as elective courses.

2. The student must subject in advance his free elective courses to the approval of the Board of Examiners. The coordinator of the student’s track will advise the Board in this matter.

3. The Board tests the proposed free elective course on the following criteria:
   a. They must be thematically linked to the Master’s programme;
   b. The track coordinator supports the proposition;
   c. It concerns a course at a master level (M);
   d. The course must be available to students of the SUSD programme;
   e. The course is not taught in the same period and timeslot as another course the student has selected.

4. Honours programmes for Master’s students (e.g. Young Innovators, GHIS, Leadership Programme) do not count towards the electives in the programme.

5. Within these bounds students are free to propose any course (even in Dutch) from any other programme in the Faculty of Geosciences, the UU or another recognised University in the Netherlands (see www.vsnu.nl > universiteiten) or abroad. Useful sources to find electives are the Osiris webpage (www.uu.nl/osirisstudent), the SUSD Blackboard community, the SUSD website (http://students.uu.nl/en/geo/susd/academics/study-programme/electives) and the USI website (www.usi-urban.nl).

6. If the student wishes to choose a free elective course, he must do so by a written request (form) to the Board of Examiners and he must attach written information on the contents, the level, and the study load of the course, preferably by means of a copy of the course’s description from the course catalogue. The ‘Application Form Elective courses IMEW’ can be found in the Blackboard communities SUSD and SUSD-JP or it can be downloaded at http://students.uu.nl/sites/default/files/geo-iees-application_form_optional_courses.pdf.

7. The student can either ask the track coordinator to sign the application form or forwards an email containing the track coordinator’s approval to the Board of Examiners. The form (and email if applicable) and the course description can be sent to Examencommissie.geo@uu.nl, f.a.o. the Board’s secretary, Mrs. drs. Erika Dijksma.

8. Recommended free elective courses as mentioned on the Blackboard community SUSD do not need to be approved by the track coordinator but must still be approved before starting by the Board of Examiners.

9. Actual participation is only possible if the student satisfies the course’s entrance conditions; in case of doubt he should contact the course coordinator first.

10. In the programme’s course schedule, room has been reserved for taking free electives. However, the student is free to deviate from this planning, e.g. because he wishes to take an interesting elective course in another period. If this causes delay in his study planning, the responsibility is for account of the student! Students are therefore advised to take their free electives in the reserved periods and timeslots, or use a part of the time planned for their internship and/or Master’s thesis.
Appendix II Education and Examination Regulations Graduate School Geosciences 2018-2019

The Education and Examination Regulations set out the degree programme-specific rights and obligations of students on the one hand and of Utrecht University on the other hand. The University’s student charter contains the rights and obligations that apply to all students.

These Regulations were adopted by the Dean of the Graduate School of the Faculty of Geosciences on 13 June 2018 with the approval of the Faculty Council and the Education Committee on 13 June 2018. This is a translated version of the officially valid Teaching and Examination regulations in Dutch (Onderwijs-en Examenregeling).

SECTION 1 – GENERAL PROVISIONS

Art. 1.1 – applicability of the Regulations

These Regulations apply to the teaching and examinations of the Master’s degree programmes in Development Studies, Earth Sciences, Environmental Sciences, Geographical Sciences, Human Geography, Human Geography and Planning (research programme), Spatial Planning and Science and Innovation (hereinafter called the degree programmes) and to all students registered for these degree programmes and to all students who apply for admission to these degree programmes in the academic year 2018-2019. The degree programmes and individual Master’s programmes are run by the Graduate School of Geosciences within the Faculty of Geosciences.

Art. 1.2 – definition of terms

In these Regulations, the terms below have the following meanings:

a. academic vacation periods: periods without any teaching obligations for teaching staff and learning obligations for students, as laid down in the academic calendar for the degree programmes.

b. academic calendar: the division of the academic year periodically determined by the Executive Board.


d. Board of Studies: the Board of the Graduate School of Geosciences.

e. component: a unit of study (course) within the degree programme, as included in the prospectus and the University Course Catalogue.

f. course: the whole of education and testing of a component.

g. course guide: document specifying for each course: the exit qualifications; the requirements (such as the attendance and effort requirements) that a student must meet to achieve the exit qualifications; test and effort requirements; required literature; the way in which the final grade is calculated; the timetable and the instructional formats; name and availability of the course coordinator.

h. credit: a value expressed in EC), where the study load is expressed as one credit being equivalent to 28 hours of learning. The European Credit Transfer System (ECTS) ensures that credits are comparable within Europe.

i. degree programmes: the Master’s degree programmes referred to in Art. 1.1 of these Regulations, consisting of a coherent whole of units of study. A Master’s degree programme may comprise several Master’s programmes.

j. examination: the final examination of the degree programme that is passed if all obligations of the entire Master’s degree programme have been fulfilled.

k. examiner: an assessor whose competence has been determined by the Board of Examiners of the program.

l. International Diploma Supplement: the annex to the Master’s degree certificate, which includes an explanation of the nature and contents of the degree programme (partly in an international context).

m. period: part of the academic year, the start dates of which are laid down in the academic calendar and the number of weeks in the calendar of the degree programme.

n. special needs contract: the contract concluded by the Director of Education (or another officer on behalf of the degree programme) and the disabled student, which lays down the necessary and reasonable facilities to which the student is entitled.

o. student: a person who is registered at the University to take courses and/or sit the tests and final examination of the degree programme. In these Regulations, reference to a student is in the masculine form, in accordance with the General Regulations Guideline applicable to Dutch legislation.

p. Student Affairs Geosciences: student information desk and student progress administration unit of the Faculty.

q. test: interim examination as referred to in Art. 7.10 of the Act.

The other terms have the meanings ascribed to them in the Act.
SECTION 2 – ADMISSION

Art. 2.1 – admission requirements of the degree programmes

1. The holder of a Dutch or foreign higher education degree who possesses knowledge, understanding and skills at university bachelor’s level and who demonstrates the specific knowledge, understanding and skills as specified in Annex 1, can be admitted to one of the Master’s programmes.

2. Selection of students is based on a review of the following core competences of applicants:
   a) motivation and talent (partly based on average grade and study progress);
   b) level of relevant knowledge and competence in the methods and techniques of the field of study concerned;
   c) general level of academic and professional skills;
   d) level of proficiency in the language(s) of instruction used in the programme.

This information is used to assess whether a student is able to complete the Master’s programme successfully within the nominal duration.

Art. 2.2 – English language (for Master’s Degree Programmes taught in English)

Registration for the degree programmes is possible only after it has been demonstrated that the requirement of adequate command of the English language is fulfilled. Deficiencies in previous education in English must be made up before the start of the degree programme by sitting one of the following tests:

- IELTS (International English Language Testing System), academic module. The minimum required IELTS score (overall band) is: 6.5 with at least 6.0 for the component ‘writing’.
- TOEFL (Test of English as a Foreign Language). The minimum required TOEFL score is 93 (internet-based test).
- Cambridge EFL (English as a Foreign Language) Examinations, with one of the following certificates:
  - Cambridge Certificate in Advanced English; minimum score B.
  - Cambridge Certificate of Proficiency in English; minimum score C.

The holder of a university Bachelor’s degree awarded in the Netherlands fulfils the requirement of adequate command of the English language.

Art. 2.3 – deficiencies

1. The Board of Admissions of the Graduate School may require those applicants who do not meet the admission requirements referred to in Art. 2.1 to complete a package of courses to a maximum of 60 EC, to be taught by Utrecht University and tailored to the Master’s programme concerned, in order to make up for prior educational deficiencies.

2. The Board of Admissions may establish in its decision that deficiencies must be made up within a certain period of time and prior to admission to the Master’s degree programme.

3. In the event of insufficient qualitative progress and/or participation in the defined deficiency programme, the Board of Admissions of the Graduate School may exclude the student from further or repeated participation.

4. The tailored package of courses, referred to in paragraph 1, is open only to candidates who hold the nationality of an EU/EER member state or Switzerland, or do not hold this nationality but do hold a residence permit that entitles them to statutory tuition fees.

5. The Board of Admissions may deviate from the requirements referred to in paragraph 4 in special cases. In any case, special dispensation will be given to refugees with residence status and refugees with a W-card, who have applied for asylum and have not yet received a final decision on their application.

Art. 2.4 – admissions procedures

1. Responsibility for admission to the degree programmes of the Graduate School and the various Master’s programmes lies with the Board of Admissions of the Graduate School.

2. In order to determine eligibility for admission to the degree programme, the Board of Admissions will consider and evaluate the knowledge, understanding and skills of the applicant. The Board may request experts within or outside the University to assess the applicant’s knowledge, understanding and skills in particular areas, in addition to a review of written documents of qualifications gained.

3. In order to determine eligibility for admission to a programme within the Master’s degree programme, the Board of Admissions will examine whether the applicant meets the admission requirements referred to in Art. 2.1(1) or will meet them in time. In its review, the Board will include the applicant’s core competences referred to in Art. 2.1(2), as well as the applicant’s knowledge of the programme’s language of instruction. On this basis the Board of Admissions will assess whether the candidate is able to achieve the exit qualifications of the Master’s degree programme with sufficient effort within the nominal duration of the programme.
4. Requests for admission to one of the degree programmes and to a specific Master’s programme are submitted to the Board of Admissions before 1 June. In special cases, the Board of Admissions may consider requests submitted after this closing date.

5. The applicant will receive written notification whether or not he has been admitted to the degree programme and a specific Master’s programme. The possibility to appeal to the Examinations Appeal Board will be indicated in this notification.

SECTION 3 – CONTENTS AND STRUCTURE OF THE DEGREE PROGRAMMES

Art. 3.1 – aim of the degree programmes

1. The degree programme aims to:
   - equip students with specialist knowledge, skills and understanding in the field of Geosciences, and help them achieve the exit qualifications referred to part 2 of this article;
   - prepare students for undertaking a programme to train as a researcher in the field of Geosciences;
   - prepare students for a career in one or more sub-fields of Geosciences.

2. The graduate:
   - has a deep knowledge and understanding of the subject matter of Geosciences;
   - has a thorough knowledge of a specialism in his degree programme and thorough knowledge at the interface of the degree programme and another field;
   - has the skills to identify, formulate, analyse and suggest possible solutions to problems independently in the field of Geosciences;
   - has the skills to conduct research in the field of Geosciences and to report on this research in a manner that meets the customary standards of the discipline;
   - possesses professional and academic skills, particularly in relation to the field of Geosciences;
   - is able to apply knowledge and understanding in such a way that demonstrates a professional approach to his work or profession;
   - is able to communicate conclusions, as well as the underlying knowledge, grounds and considerations, to an audience composed of specialists or non-specialists.

The prospectuses for the Master’s degree programmes set out the subject-specific exit qualifications for the different Master’s programmes.

Art. 3.2 – mode of attendance

The degree programmes in Development Studies, Earth Sciences, Environmental Sciences, Human Geography and Planning (research programme) and Science and Innovation are offered full-time. The degree programmes in Spatial Planning, Geographical Sciences and Human Geography are offered full-time as well as part-time.

Art. 3.3 – language of instruction

All degree programmes are taught in English.¹

Art. 3.4 – study load

The degree programmes in Earth Sciences, Environmental Sciences, Geographical Sciences, Human Geography and Planning (research programme) and Science and Innovation have a total study load of 120 credits. The degree programmes in Development Studies, Spatial Planning and Human Geography have a total study load of 60 credits.

Art. 3.5 – programmes; start dates

1. The Graduate School of Geosciences offers the following Master’s degree programmes and master’s programmes:

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¹ The programmes Geo-communicatie and Economische Geografie are taught in Dutch.
The Master's degree programmes prepare students for undertaking research in one or more sub-fields of Geosciences.

2. All Master's degree programmes have one start date a year: 1 September.

Art. 3.6 – components of the Master’s programmes
1. The core components of the different Master’s programmes and their study loads are described in Annex 2.
2. Upon approval by the Board of Examiners, the student will choose one or more components. The study loads for the elective components of the specific Master’s programmes are set out in Annex 2.
3. In the prospectus, the contents and form of instruction of the components of the different Master’s programmes are described in more detail, stating the prior knowledge desirable to pass the relevant component.

Art. 3.7 – components taken elsewhere
1. The condition for gaining the degree certificate of the Master’s examination of the programme is that at least half of the Master’s degree programme is passed in components provided by Utrecht University.
2. Components passed elsewhere during the degree programme can only be incorporated in the student’s examinations programme with prior permission from the Board of Examiners.
3. Exemption can be granted for components passed at an institute of higher education prior to the start of the Master’s degree programme only on the basis of Art. 5.14.
4. Contrary to Art. 3.7.3., components that have been passed in a Master’s degree programme at Utrecht University prior to the start of the Master’s degree programme may be counted towards the student’s examinations programme with the classification awarded.

Art. 3.8 – actual teaching structure
The teaching structure of each course is shown in the University Course Catalogue and/or course guides and/or in the digital learning environment (Blackboard). The student can view the room timetables of the classes for which he or she is registered via MyTimetable.

SECTION 4 – COURSES
Art. 4.1 – course
All courses that are part of the degree programmes have been included in the prospectuses for the programmes and can be found at the student site.

Art. 4.2 – course admission requirements
The Board of Studies will decide the order in which the required components of a Master’s degree programme must be completed. This will be announced in the prospectus and/or the course guide.

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2 From the academic year 2017-2018 the programmes Geo-communicatie, Economische geografie, Urban Geography, and Water Science and Management as a part of Earth Sciences are open only for re-registration.
Art. 4.3 – registration for courses

1. Participation in a course is possible only if the student has registered for it in good time. The Board of Studies will decide how and when registration takes place. Registration rules and closing dates will be published through the student site.

2. All the courses that are listed in the University Course Catalogue will take place.

3. If fewer than 15 students register for a course, the course coordinator may decide, in consultation with the Director of Education, to offer the course in a different instructional format and/or assessment.

4. A student may register for a maximum of two courses of 7.5 EC or three courses of 5 EC per period.

5. An extra course must always be requested in good time from the degree programme office. This extra course may only be chosen from the range of courses offered within a student's own degree programme; requests may be made only during the regular registration period.

6. If the student fails to make adequate progress on the course and/or there is insufficient capacity for a course, the Director of Education may exclude a student from registration for a third course within a single course period.

7. Subject to notification to the contrary no later than 15 working days before the start of the course, the student who has registered correctly and in time for a course will have a confirmed place on the course.

8. During the late registration days, a student may only register for the courses for which capacity is still available.

Art. 4.4 – attendance and effort requirements

1. Each student is expected to participate actively in the course for which he or she is registered.

2. Besides the general requirement for the student to participate actively in the course, the additional requirements for each component are listed in the University Course Catalogue and the course guide.

3. A student may be granted exemption from attendance for reasons demonstrably beyond his control (for instance as a result of illness or family circumstances), at the discretion of the course coordinator. The student must notify the study programme's secretariat of his absence in advance. The course coordinator may request the student to provide written evidence.

4. In the event of qualitatively or quantitatively inadequate participation, the course coordinator may exclude the student from further participation in the course or part of it.

5. Effort requirements (such as holding a presentation or writing a paper) can never expire. If a student fails to meet an effort requirement in time for reasons beyond his control, he must report to the course coordinator immediately after the situation has arisen and, if instructed by the course coordinator, provide evidence of the exceptional circumstances.

6. Students who wish to apply for special arrangements with regard to course obligations as a result of chronic illness, disability or Outstanding Student Athlete status, may submit a request to the Board of Examiners (see also Art. 7.3).

Art. 4.5 – participate in courses; priority rules

1. If a course has a limited capacity, the University Course Catalogue and / or study guide indicates how many students can register for the course.

2. Participation is only possible if the student is registered, students have priority on courses that belong to the compulsory and compulsory electives part of their study programme.

3. Apart from the general priority rule formulated in paragraph 2, admission to courses with a limited capacity will be based on the following placement rules:

   a. students who are repeating a course because they did not successfully complete the course due to circumstances demonstrably beyond their control;
   b. students for whom the course is compulsory or a compulsory elective;
   c. exchange students accepted by the faculty who have registered in time under approval;
   d. remaining students.

4. In the case of electives with a limited capacity, lots will be drawn. Students of the faculty (including accepted GEO exchange students) will be given priority over external students.
5. A student is expected to be aware of all information that is send to his or her university email address, or that is published on the student site of the study programme and in the electronic learning environment. Information distributed in this manner is assumed to be known.

Art. 4.6 – complete courses for international students before winter break
International exchange students have the opportunity to complete courses, selected by the Director of Education in period 2, before the winter break.

Art. 4.7 – evaluation of the quality of education
1. The Director of Education is responsible for monitoring the quality of education. To this end, the Director ensures that courses are evaluated as well as the curriculum. The Director takes the advice and suggestions given by the Education Committee on improving and ensuring the quality of the programme into consideration.
2. Students are informed of the outcomes of the course and curriculum evaluations.

SECTION 5 – TESTING
Art. 5.1 – general
1. During the course, the student will be tested for academic schooling and on the extent to which he or she has sufficiently achieved the learning objectives set. The testing of the student will be concluded at the end of the course.
2. The University Course Catalogue and/or course guide describe the achievements the student must demonstrate to pass the course, as well as the criteria on which the student is assessed. In the event of a difference of opinion, the course guide will be followed.
3. The course coordinator can indicate in the course guide for at most one test component that obtaining a sufficient grade of at least 5.50 is a condition for awarding a sufficient final grade. Only in special cases and with the approval of the Director of Education, this condition can be linked to more than one test component.
4. Subject to what is stated in article 5.5. and 5.6 each test component that is part of the final assessment of a course is taken and assessed once.
5. If a course has to be repeated, the last classification gained will count.
6. Should a student pass a course, but still wishes to repeat the course, the complete course must be repeated.
7. The Regulations of the Board of Examiners describe the testing process (see: student site).

Art. 5.2 – Board of Examiners
1. The Dean will establish a Board of Examiners for each degree programme or group of degree programmes and will sufficiently ensure that the Board of Examiners can operate independently and professionally.
2. The Dean will appoint the chair and the members of the Board of Examiners for a period of three years on the basis of their expertise in the field of the degree programme(s) in question or the field of testing, in which:
   - at least one member comes from outside the degree programme or group of degree programmes concerned, and
   - at least one member is a lecturer on the degree programme or group of degree programmes concerned.
Re-appointment is possible. Before making this appointment, the Dean will consult the members of the Board of Examiners concerned.
3. Persons holding management positions that include financial responsibilities or who are wholly or partially responsible for Master’s degree programmes are not eligible for appointment to the Board of Examiners or as chair of the Board of Examiners. These persons will in any event include the Dean, the Vice Dean, directors/heads/managers of a department, members of a department’s management/governing team, members or chairs of the Board of Studies of the Graduate or Undergraduate School and the Director of Education.
4. Membership of the Board of Examiners will end on completion of the term of appointment. The chair and members of the Board may also be dismissed by the Dean at their own request. The chair and members of the Board will be dismissed by the Dean if they no longer meet the requirements of paragraphs 2 or 3 of this article. The Dean may also dismiss a chair or members found to be performing their statutory duties unsatisfactorily.
5. The Dean will announce the composition of the Board(s) of Examiners to students and lecturers.
Art. 5.3 – assessment of traineeship or research assignment and thesis
1. A traineeship or research assignment will be assessed by the supervisor and also examiner in question and by one or more other internal and/or external experts.
2. Master’s theses will be assessed by at least two examiners.

Art. 5.4 – grades
1. Grades will be awarded on a scale of 1 to 10. The final assessment of a course is either pass or fail, expressed in numbers: 6 or higher and 5 or lower respectively.
2. The final course grade will be rounded to one decimal place. A partial course grade will never be rounded.
3. The final course grade of 5 will not have any decimal places. An average grade of 4.95 to 5.49 is a fail (5); an average grade of 5.50 to 5.99 is a pass (6).
4. The course guide sets out the way in which the final course grade is calculated.
5. Alphanumeric results are awarded in the following cases:
   - a student who is registered for a course and has not participated in one of the test modules will be given an NV (Niet Verschenen – No Show). If non-participation is for reasons beyond the student’s control the student will be given an ND (Niet Deelgenomen – Not Participated);
   - a student who has not participated in all the test modules, or failed to meet the condition of a sufficient minimum grade of 5,50 for a test component, will be given an NVD (Niet VolDaan – Incomplete);
   - if the student has completed a module, but has not received a grade for it, he may be given a V (Voldoende – Satisfactory) as the result;
   - if the student has not completed a module but does not receive a grade for it, the student can be given an ONV (ONVoldoende - Unsatisfactory) as the result;
   - a student who has been granted exemption by the Board of Examiners will be given a VR (VRijstelling – Exemption);
   - if the Board of Examiners establishes fraud, the student may be given an FR (FRaude – Fraud) as the result.

Art. 5.5– repeat exams: supplementary tests
1. If during the course the student satisfies all the effort requirements and does not receive a pass grade but does receive a final grade of at least 4.00 before rounding, he or she will be given a once-only opportunity to take a supplementary test.
2. A student will not qualify for a supplementary test if he or she has been awarded a pass.
3. The lecturer will determine the form and content, as well as date and time, of the supplementary test.
4. If the student passes the individual supplementary test, a final grade of 6 for the entire course will be recorded in the student progress administration system. Partial course grades that the student has achieved will not be taken into account in establishing the final grade of the supplementary test.
5. If the student does not pass the supplementary test, the initial final grade will be entered into the student progress administration system, thus rendering all partial course grades no longer valid.
6. If the student cannot be awarded a sufficient final average grade of 5.50 or higher because he or she has failed to pass one test component with the condition of a sufficient grade, he or she will be given one opportunity to take a supplementary partial test only if he or she has met all the other efforts requirements of the course.
7. A student will not qualify for a supplementary partial test if he or she has been awarded a pass.
8. The lecturer will determine the form and content of the supplementary partial test. The content of this partial test serves to replace the test component for which the mandatory minimum grade of 5,50 or higher is not achieved.
9. If a supplementary partial test is adequately repaired, the grade 5.50 is assigned to the test component and the final average grade will be recalculated according to the conditions specified in the course guide.
10. If the student does not pass the supplementary test, the final grade NVD will be entered into the student progress administration system, thus rendering all partial course grades no longer valid.

Art. 5.6– force majeure: replacement tests
1. Students who miss a test or part of a test owing to circumstances demonstrably beyond their control will be given only one opportunity to sit a replacement test. Only students reporting these circumstances beyond their control immediately after their occurrence to the course coordinator will be eligible to sit a replacement test (see also art. 4.4.).
2. The lecturer will determine the form and content of the replacement test.
3. If the student is not present at the replacement test, or fails to meet the terms of the replacement test in good time, he or she will not be offered another opportunity.

Art. 5.7 – type of test
1. Testing as part of a course will take place as stated in the course guide.
2. Upon request, the Board of Examiners may allow a test to be administered in a manner which departs from the provisions of the first paragraph.

Art. 5.8 – oral tests
1. Only one person at a time may be tested orally, unless the Board of Examiners decides otherwise.
2. Oral tests will be administered in public, unless the Board of Examiners or the examiner in question has decided otherwise in a special case, or the student has objected to this.

Art. 5.9 – provision for testing in special cases
1. If not providing for an individual testing possibility would result in a ‘special case of manifest unfairness’, the Board of Examiners may decide to grant an individual testing possibility.
2. Requests for a special possibility to sit a test must be submitted to the Board of Examiners as soon as possible, together with supporting documentary evidence.

Art. 5.10 – time limit for grading tests
1. Within 24 hours of administering an oral test the examiner will determine the grade and provide the student with a written statement of the grade awarded.
2. The examiner will grade a written or differently administered test or partial test within 10 working days of the test date, and will provide the administrative office of the Faculty with the information necessary to provide the student with written or electronic proof of his grade.
3. If there is a third examiner, a new assessment period of 10 working days will commence, immediately following the first period of 10 working days. It is not possible to commence a new period following this second period.
4. Time frames for assessment do not apply during academic vacation periods.
5. The written statement of the grade awarded must inform the student of the right of inspection referred to in Art. 5.12 and of the possibility to appeal to the Examination Appeals Board.

Art. 5.11 – period of validity
1. The term of validity of courses passed is eight years between test date and exam date.
2. Notwithstanding this, in case of special circumstances the Board of Examiners may, if the student requests, determine an extended validity period for a course, or impose a supplementary or replacement test.
3. Partial tests and assignments passed in a course that was not successfully completed will expire at the end of the academic year in which they were passed. Partial tests and assignments expire at the end of the period in which they were passed, if the course concerned is taught more than once per academic year.

Art. 5.12 – right of inspection
1. Within 30 days after the announcement of the result of a written test, the student is allowed to inspect his or her graded work upon request. A copy of that work will be supplied to the student on request.
2. During the period referred to in the first paragraph, any interested party may inspect the questions and assignments of the test concerned, as well as the standards on which the grade was based.

Art. 5.13 – retention of tests
1. The assignments, answers and the work assessed in the written tests will be kept in paper or electronic form for a period of two years following the assessment.
2. The thesis and its assessment will be kept in paper or electronic form for a period of seven years following the assessment.

Art. 5.14 – exemption
At the student’s request, the Board of Examiners may, after consulting the examiner in question, grant the student exemption from a programme component if he:
a. has already either completed a university or higher vocational programme component which is equivalent in content and level; or
b. has demonstrated through work or professional experience that he has sufficient knowledge and skills in relation to that component.

Art. 5.15 – fraud and plagiarism

1. Fraud and plagiarism are defined as an action or failure to act on the part of a student, as a result of which a correct assessment of his knowledge, understanding and skills is made impossible, in full or in part.
   Fraud includes:
   - cheating during tests. The person offering the opportunity to cheat is an accessory to fraud;
   - having within reach tools and resources during tests, such as a pre-programmed calculator, mobile phone, smartwatch, smartglasses, books, course readers, notes, etc., consultation of which is not explicitly permitted;
   - having others carry out all or part of an assignment and passing this off as own work;
   - gaining access to questions, assignments or answers of a test prior to the date or time that the test takes place;
   - making up survey or interview answers or research data;
   - Plagiarism is defined as including data or sections of text from others in a thesis or other paper without quoting the source. Plagiarism includes the following:
     - cutting and pasting text from digital sources such as encyclopaedias and digital magazines without using quotation marks and referring to the source;
     - cutting and pasting text from the internet without using quotation marks and referring to the source;
     - using excerpts from texts of printed material such as books, magazines and encyclopaedias without using quotation marks and referring to the source;
     - using a translation of the abovementioned texts without using quotation marks and referring to the source;
     - paraphrasing of the abovementioned texts without clearly referring to the source: paraphrasing must be marked as such (by explicitly linking the text with the original author, either in text or a footnote), so that the impression is not created that the ideas expressed are those of the student;
     - using visual, audio or test material from others without referring to the source and presenting this as own work;
     - resubmission of the student’s own earlier work without referring to the source, and allowing this to pass for work originally produced for the purpose of the course, unless this is expressly permitted in the course or by the lecturer;
     - using the work of other students and passing this off as own work. If this happens with the permission of the other student, the latter is also guilty of plagiarism;
     - in the event that, in a joint paper, one of the authors commits plagiarism, the other authors are also guilty of plagiarism, if they could or should have known that the other was committing plagiarism;
     - submitting papers obtained from a commercial institution (such as an internet site offering excerpts or papers) or having such written by someone else whether or not in return for payment.

2. a. In all cases in which fraud or plagiarism is found or suspected, the examiner will inform the student and the Board of Examiners of this in writing.
   b. The Board of Examiners will give the student the opportunity:
      - to respond to that in writing;
      - to be heard.

3. The Board of Examiners will determine whether fraud or plagiarism has occurred and will inform the student of its decision in writing and of the sanctions in accordance with the stipulations of the fourth paragraph, stating the possibility of appeal to the Examination Appeals Board.

4. Fraud and plagiarism will be punished by the Board of Examiners as follows:
   a. In any event:
      o invalidation of the paper or examination submitted
      o a reprimand, a note of which will be made in OSIRIS.
   b. In addition, – depending on the nature and scale of the fraud or plagiarism, and on the student’s phase of study – one or more of the following sanctions:
      o removal from the course
      o no longer being eligible for a positive degree classification (cum laude) as referred to in art. 6.2
o exclusion from participation in examinations or other forms of testing belonging to the educational component concerned for the current academic year, or for a period of 12 months

o complete exclusion from participation in all examinations or other forms of testing for a period of 12 months.

c. In the event that the student has already received a reprimand: complete exclusion from participation in all examinations or other forms of testing for a period of 12 months.

d. In the case of extremely serious and/or repeated fraud or plagiarism, the Board of Examiners may recommend that the Executive Board permanently terminates the student’s registration for the degree programme.

5. If the Board of Examiners determines that there has been widespread or organised fraud, on a scale which would affect the examination results in their entirety, the Board of Examiners will decide without delay that the examination concerned is invalid and that all the participants must resit the whole examination at short notice. The Board of Examiners will set the date on which the examination must be retaken. This date will be no later than two weeks after the fraud was established, so that the participants can still benefit from their preparatory work for the examination.

art. 5.16 – control of plagiarism

1. For the purpose of controlling plagiarism handing in an electronic version of written assignments by the student (such as papers, theses) can be imposed as a compulsory condition by the examiner of the relevant course, whether or not using a designated plagiarism detection system. If the student does not submit an electronic version of the assignment in time, the assessor may decide not to assess the assignment.

2. By submitting a written assignment, the student gives permission in the broadest sense of the word for the control of plagiarism via a plagiarism detection system as well as for recording the written assignment in databases, to the extent necessary, for future plagiarism checks.

3. In the event that a particular course decides to disclose documents, the student reserves the right not to disclose his or her written assignment other than for the purpose of plagiarism as referred to in paragraphs 1 and 2 of this article.

Art. 5.17 – right of appeal

The student has a right to appeal decisions taken by the Board of Examiners or by examiners. The appeal must be made in writing, and explaining the basis for the appeal, to the Examination Appeals Board within six weeks of taking the test or examination, or of the decision being made, pursuant to Section 7.61 of the Higher Education Research Act 1992.

SECTION 6 – EXAMINATION

Art. 6.1 – examination

1. As soon as a student has fulfilled the requirements of the examinations programme, the Board of Examiners will determine the result of the examination and award a certificate, as described in Art. 6.4.

2. Prior to determining the result of the examination, the Board of Examiners may conduct its own examination of the student’s knowledge of one or more components or aspects of the degree programme, if and in so far as the results of the relevant tests give it reason to do so.

3. Assessment of the examinations file constitutes part of the final examination. The date of examination will be the last working day of the month in which the Board of Examiners has determined that the student has fulfilled all the requirements of the examinations programme. The student must be registered for the degree programme on the examination date.

4. Conditions to pass the examination are:
   - all components are passed;
   - the composition of the course package completed meets the level requirements set.

5. A further condition for passing the examination and receiving the certificate is that the student was registered for the degree programme during the period in which the tests were taken. If the student does not fulfil this condition, the Executive Board may issue a statement of no objection in relation to the passing of the examination and the issue of the certificate, after the student has paid the tuition fees and administration charges owing for the ‘missing’ periods.

6. A student who has passed the examination and is entitled to a certificate may request the Board of Examiners to not yet grant the certificate and to postpone the examination date referred to in paragraph 3. This request has to be submitted within two weeks after the student has been informed of the result of the examination. The student will indicate in this request when he or she does wish to receive the certificate. The Board of Examiners will grant the request in any case if the student:
   a. is to fulfil a management position for which Utrecht University has provided an administrative grant
   b. is to do a traineeship or take a component of a programme abroad.
The Board of Examiners may also grant the request if refusal would result in an exceptional case of extreme unfairness on account of the circumstance the student concerned could not have taken automatic graduation into account when he was planning his study.

7. After the student has passed the final examination he can request the institution to terminate his registration.

Art. 6.2 – cum laude classification

1. If a student has demonstrated outstanding academic achievement in his Master’s degree programme, the degree will be awarded cum laude; this classification will be noted on the degree certificate.

2. The cum laude classification will be awarded to the Master’s examination if each of the following conditions have been met:
   1. the weighted average (based on EC) of the grades achieved for the Master’s programme components is at least 8.00.
   2. the student has received a minimum grade of 8.00 for the Master’s thesis.
   3. the student has been granted no more than 7.5 credits in exemptions that do not count towards the examination programme (1-year programmes) or no more than 15 credits (2-year programmes).
   4. there has been no decision by the Board of Examiners (as referred to in Art. 5.1) that because it has been established that fraud/plagiarism has been committed the student no longer qualifies for a positive classification (cum laude).
   5. the Master’s examination has been passed within one and a half years (one-year degree programmes) or three years (two-year degree programme).

3. The Board of Examiners may decide to award the cum laude classification even if not all the requirements referred to in paragraph 2 are met. Such a decision must be unanimous.

4. Classifications other than cum laude will not be noted on the degree certificate.

Art. 6.3 – degree

1. The Master of Science degree will be awarded to the student who passes the examination.

2. The degree awarded will be noted on the examination certificate.

Art. 6.4 – degree certificate and IDS

1. The Board of Examiners will award a certificate as proof that the examination was passed.

2. The Board of Examiners will add the International Diploma Supplement in the English language to this certificate, which provides (international) insight into the nature and contents of the completed degree programme.

Art. 6.5 – grading tables

1. The International Diploma Supplement gives the student’s cumulative average mark and an ECTS Grading Table.

2. The cumulative average mark shows the student’s academic performance on a scale of 1 to 10. It is calculated based on the final results for the courses the student has successfully completed within the degree programme. Courses that are not assessed on a numerical basis are not included in the calculation. The cumulative average mark is weighted based on the number of credits for each course.

3. The ECTS Grading Table gives a clear picture of Utrecht University’s marking culture for educational institutions and employers outside the Netherlands. Based on the Grading Table, they can convert the results into their own marking system. The ECTS Grading Table is an institution-wide table for all Master’s Degree programmes. This table uses a ten-point scale where only the marks from 6 to 10 are shown, as only passing marks are included in the Grading Table. The marks are expressed only as whole or half points. The percentage given with each mark indicates how frequently each mark is awarded.

The ECTS Grading Table is calculated on the basis of:
   1. all final passing marks in courses undertaken towards the degree, excluding alphanumerical results;
   2. not weighted according to study load;
   3. in the three most recent academic years;
   4. of students who were registered for a Master’s Degree programme at Utrecht University.

SECTION 7 – STUDENT COUNSELLING

Art. 7.1 – student progress administration

1. The Faculty must record the individual study results of the students and make them available through Osiris-student.

2. Certified student progress files may be obtained from Student Affairs Geosciences.
Art. 7.2 – student counselling
1. The Faculty is responsible for providing an introductory programme and student counselling to students registered for the degree programmes.
2. Student counselling encompasses:
   - encouraging students to feel part of the community;
   - supervising programme choices;
   - assisting a student to familiarise himself with the job market.
   - an introductory programme in the first week of the first semester of the first year of study
   - referring and assisting students who encounter difficulties during their studies.

Art. 7.3 – disability and chronic illness
Students with special needs or chronic illness are afforded the opportunity to take classes and sit tests in the manner agreed in their special needs contracts. Requests for special needs contracts are submitted to the study advisor.

SECTION 8 – TRANSITIONAL AND FINAL PROVISIONS
Art. 8.1 – safety net arrangements
In cases for which these Regulations do not provide, do not clearly provide or lead to obviously unreasonable outcomes, a decision will be taken by or on behalf of the Dean, after having heard the Board of Examiners. If, on the basis of the law, the decision falls within the competence of the Board of Examiners, the Dean will send the request to the Board of Examiners for it to settle.

Art. 8.2 – amendments
1. Amendments to these Regulations will be laid down by the Dean after having heard the Education Committee and after consultation with the Faculty Council, in separate resolutions.
2. An amendment to these Regulations is not to be applied to the current academic year, unless it is reasonable to assume that it will not harm the interests of the students.
3. Furthermore, an amendment may not have an adverse effect for students on any other decision the Board of Examiners has taken pursuant to these Regulations with respect to a student.

Art. 8.3 – publication
The Dean will provide for the publication of these Regulations, as well as each amendment, on the internet.

Art. 8.4 – effective date
These Regulations take effect on 1 September 2018.
ANNEX 1 ADMISSION REQUIREMENTS MASTER’S PROGRAMMES

Earth, Life and Climate
Admission to the programme Earth, Life and Climate is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights and skills:

a) knowledge in the field of Earth Sciences, Biology or Chemistry, at advanced level of the major Earth Sciences, Biology or Chemistry at Utrecht University, or equivalent to that level.

b) insight in Earth Sciences at advanced level of the major Earth Sciences, Biology or Chemistry at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Earth Sciences, Biology or Chemistry at Utrecht University, or equivalent to that level.

Earth Structure and Dynamics
Admission to the programme Earth Structure and Dynamics is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights and skills:

a) knowledge in the field of Earth Sciences or Physics, at advanced level of the major Earth Sciences or Physics at Utrecht University, or equivalent to that level.

b) insight in Earth Sciences at advanced level of the major Earth Sciences or Physics at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Earth Sciences or Physics at Utrecht University, or equivalent to that level.

Earth Surface and Water
Admission to the programme Earth Surface and Water is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills on a university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights and skills:

a) knowledge in the field of Earth Sciences, at advanced level of the major Earth Sciences at Utrecht University, or equivalent to that level.

b) insight in Earth Sciences at advanced level of the major Earth Sciences at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Earth Sciences at Utrecht University, or equivalent to that level.

Energy Science
Admission to the programme Energy Science is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights and skills:

a) knowledge in the field of Environmental Sciences, Science and Innovation Management, Physics or Chemistry at advanced level of the major Environmental Sciences, Science and Innovation Management, Physics or Chemistry at Utrecht University, or equivalent to that level.

b) knowledge of Thermodynamics, Energy Analysis and Mathematics

c) insight in Environmental Sciences, Science and Innovation Management, Physics or Chemistry at advanced level of the major Environmental Sciences, Science and Innovation Management, Physics or Chemistry at Utrecht University, or equivalent to that level.

d) academic and research skills of the major Environmental Sciences, Science and Innovation Management, Physics or Chemistry at Utrecht University, or equivalent to that level.

GIMA (Master of Science in Geographical Information Management and Applications)
Admission to the programme Geographical Information Management and Applications is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level, for instance equivalent to the advanced level of the major Human Geography and Planning at Utrecht University:

a) knowledge in the field of geo-information, geography, GIS or another GIMA related field of study.

b) insight in geographical data processes and collecting, processing and distributing information.

c) Academic skills and research skills.
Human Geography
Admission to the programme Human Geography is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, understanding and skills:

a) knowledge in the field of Urban Geography or Economic Geography at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

b) insight in Urban Geography or Economic Geography at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

Innovation Sciences
Admission to the programme Innovation Sciences is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights, and skills:

a) knowledge in the field of Science and Innovation Management, Natural Sciences or Life Sciences, at advanced level of the major Science and Innovation Management, Natural Sciences or Life Sciences at Utrecht University, or equivalent to that level.

b) knowledge in the field of emerging technology issues and complex multidisciplinary problems.

c) insight in Science and Innovation Management, Natural Sciences or Life Sciences, at advanced level of the major Science and Innovation Management, Natural Sciences or Life Sciences at Utrecht University, or equivalent to that level.

d) academic and research skills of the major Science and Innovation Management, Natural Sciences or Life Sciences at Utrecht University, or equivalent to that level.

International Development Studies
Admission to the programme International Development Studies is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights, and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights, and skills:

a) knowledge in the field of Development Geography, at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

b) insight in Development Geography at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

Marine Sciences
Admission to the programme Marine Sciences is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights, and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights, and skills:

a) knowledge in the field of Earth Sciences or Biology, at advanced level of the major Earth Sciences or Biology at Utrecht University, or equivalent to that level.

b) insight in Earth Sciences or Biology at advanced level of the major Earth Sciences or Biology at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Earth Sciences or Biology at Utrecht University, or equivalent to that level.

Spatial Planning
Admission to the programme Spatial Planning is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights, and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights, and skills:

a) knowledge in the field of Planning, at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

b) insight in Planning at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

Sustainable Business and Innovation
Admission to the programme Sustainable Business and Innovation is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights, and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights, and skills:
a) knowledge in the field of Science and Innovation Management, Environmental Sciences, Environmental Studies or Economics, at advanced level of the major Science and Innovation Management, Environmental Sciences, Environmental Studies or Economics at Utrecht University, or equivalent to that level.

b) knowledge of sustainable development and/or innovation sciences.

c) basic knowledge of natural sciences at Bachelor’s level, including Mathematics, and/or Chemistry and/or Physics.

d) insight in Science and Innovation Management, Environmental Sciences, Environmental Studies or Economics at advanced level of the major Science and Innovation Management, Environmental Sciences, Environmental Studies or Economics at Utrecht University, or equivalent to that level.

e) academic and research skills of the major Science and Innovation Management, Environmental Sciences, Environmental Studies or Economics at Utrecht University, or equivalent to that level.

**Sustainable Development**
Admission to the programme Sustainable Development is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has 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 Organisation Science or Social Sciences at Utrecht University, or equivalent to that 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 in Environmental Sciences, Natural Sciences or Social Sciences at the advanced level of a major in Earth Sciences, Physics, Chemistry, Biology, Economics, Public Administration and Organisation Science or Social Sciences at Utrecht University, or equivalent to that level.

f) academic and research skills of a major in Earth Sciences, Physics, Chemistry, Biology, Economics, Public Administration and Organisation Science or Social Sciences at Utrecht University, or equivalent to that level.

**Urban and Economic Geography (Research Master)**
Admission to the research programme Human Geography and Planning is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights and skills:

a) knowledge in the field of Human Geography or Spatial Planning, at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

b) insight in Human Geography or Spatial Planning at advanced level of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Human Geography and Planning at Utrecht University, or equivalent to that level.

**Water Science and Management**
Admission to the programme Water Science and Management is given to a student holding a Dutch or foreign diploma confirming that he has gained the knowledge, insights and skills at university Bachelor’s level. Furthermore, the student needs to prove that he has gained the following specific knowledge, insights and skills:

a) knowledge in the field of Earth Sciences, Environmental Sciences or Natural Sciences, at advanced level of the major Earth Sciences or Environmental Sciences at Utrecht University, or equivalent to that level.

b) insight in Earth Sciences, Environmental Sciences or Natural Sciences at advanced level of the major Earth Sciences or Environmental Sciences at Utrecht University, or equivalent to that level.

c) academic and research skills of the major Earth Sciences or Environmental Sciences at Utrecht University, or equivalent to that level.
## ANNEX 2 STRUCTURE OF MASTER’S PROGRAMMES

### Earth, Life and Climate

<table>
<thead>
<tr>
<th>Theoretical courses: required electives</th>
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<tr>
<td>Deficiency courses</td>
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<tr>
<td>MSc research/thesis</td>
<td>30-45 EC</td>
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<tr>
<td>Individual programme/ internship Compulsory 2nd report</td>
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</tr>
<tr>
<td>Additional theoretical courses, seminar modules, advanced-level courses</td>
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<tr>
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<td>0-45 EC</td>
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### Energy Science

| Required/theoretical | 22.5 EC |
| Methods of research | 15 EC |
| MSc thesis/internship | 30-52.5 EC |
| Elective | 22.5-37.5 EC |

### Geographical Information Management and Applications

| Required / theoretical | 40 EC |
| Required (practical methods) | 20 EC |
| MSc research/thesis | 30 EC |
| Internship or Individual programme | 30 EC |

### Human Geography

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## Marine Sciences

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## Sustainable Development

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## Urban and Economic Geography

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### Structure re-enrolment programmes:

**Economische Geografie**

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**Geo-communicatie**

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Appendix III Regulations of the Board of Examiners 2018-2019

Regulations of the Board of Examiners adopted by the Board of Examiners for the Graduate School of Geosciences at Utrecht University, on 24 May 2018.

Preamble
The Board of Examiners of the Graduate School consists of a central Board of Examiners and three executive panels. These executive panels implement examinations policy independently, within the frameworks set by the central Board of Examiners of the Graduate School of Geosciences. The chairs of the executive panels form the central Board of Examiners of the School. The central Board of Examiners acts as a framework-setting and supervisory body. It determines examinations policy and sets the frameworks in the form of regulations and procedures. The central Board of Examiners lays down the regulations of the Board of Examiners each year. In its supervisory role it also monitors the quality of the decisions and the implementation of examinations policy by the panels. Requests to the Board of Examiners are received centrally and are then assigned by the central Board of Examiners to the executive panels.

PARAGRAPH 1 – GENERAL STIPULATIONS

Art. 1.1 – scope of application

These Regulations apply to the tests and examinations of the study programme(s) Earth Sciences, Development Studies, Environmental Sciences, Geographical Sciences, Human Geography, Human Geography and Planning, Science and Innovation and Spatial Planning.

The terms defined in the Education and Examination Regulations of these study programmes also apply to these Regulations.

Art. 1.2 – Board of Examiners

1. The Board of Examiners will appoint a member from its ranks who is charged with managing the daily course of affairs of the Board of Examiners.
2. The Board of Examiners will take decisions by an ordinary majority of votes. If the votes are equal, the student or his request is rejected.
3. The chair and all members of the Board of Examiners are authorized signatories.
4. The Board of Examiners must take a decision within six weeks of receipt of an application.
5. Decisions taken by a Board of Examiners will be recorded in minutes. These minutes will be approved, at least by or on behalf of the chair.
6. The Board of Examiners will be supported in its work by an official secretary. This official secretary will not sit on the Board of Examiners. The official secretary will:
   - prepare, convene and take minutes at the meetings;
   - monitor the implementation of decisions taken;
   - communicate decisions taken to students and other interested parties;
   - draw up regular reports;
   - archive requests processed, objections and decisions taken.

Art. 1.3 – standards

In its decisions, the Board of Examiners will be guided by the following standards:

a. the retention of quality criteria in an examination or test;

b. efficiency requirements, expressed inter alia in efforts to:
   - limit as far as possible loss of time for students, who can thereby make rapid progress which their studies;
   - encourage students to terminate their studies as quickly as possible, if it is unlikely that they will pass an examination or test;
c. protecting students from themselves in the event that they wish to take on an excessive study load;

d. leniency towards students who, through no fault of their own, have experienced delays in the progress of their studies.

**Art. 1.4 - examiners**

1. The Board of Examiners will appoint members of the academic staff charged with teaching a course as examiners. The Board of Examiners may furthermore appoint other members of the academic staff and experts outside the study programme as examiners. The examiners are responsible for the testing of the course.

2. The Board of Examiners may withdraw the appointment as an examiner in the event that the examiner fails to comply with the applicable legislation or regulations or guidelines of the Board of Examiners, or if the competence of the examiner concerning the making, administering or marking of tests repeatedly proves to be of insufficient quality.

**PARAGRAPH 2 – ORGANIZATION OF TESTS AND PROPER PROCEDURE**

**Art. 2.1 – times of tests**

1. Written tests are to be administered at times set by the course examiner at least 14 days before the start of the term in question.

2. In setting the times of the tests any overlap of tests must be prevented as far as possible.

3. Changes to times set may be made only in cases of force majeure.

4. If possible, oral tests are to be administered by the examiner(s) in question at a time set after consulting with the student.

5. The times of written supplementary and replacement tests will be determined and announced at least two weeks in advance. At least five working days will pass between the announcement of the results and the resit.

**Art. 2.2 – registration for tests**

When registered correctly for a course, students are also signed up for the course test(s).

**Art. 2.3 – order during an examination or test**

1. The examiner will ensure that an adequate number of invigilators are appointed for the written examinations. These invigilators will ensure that the test proceeds properly.

2. The student must identify himself on request by or on behalf of the Board of Examiners by a valid proof of his or her identity. Admission to the test will be denied if the student is unable to identify himself.

3. The student must follow instructions of the Board of Examiners, or the examiner or invigilator, which are given before, during and immediately after the test.

4. Should the student fail to follow one or more instructions as referred to in the third paragraph, he or she may be excluded by the Board of Examiners or examiner from further participation in the test in question. As a consequence of the exclusion, no result will be determined for that test. Before the Board of Examiners takes a decision, at the student’s request they must give him the opportunity to be heard on the matter.

5. The duration of a test must be such that students reasonably have enough time to answer the questions.

6. Latecomers will be admitted to a test 30 minutes at most after the start of the test. If a student is prevented by force majeure from being present within this time limit, the Board of Examiners, or examiner, will decide whether he or she can still be admitted to the test. Latecomers may not claim extra time for the test.
7. Students may not leave the room where the test is being administered within 30 minutes of the start of the test.
8. After the participants have left the room, no more latecomers will be admitted to the test.
9. Students must hand over their bags, coats and electronic devices to the invigilators at the start of the test.

PARAGRAPH 3 – ASSESSMENT OF TESTS, THESIS

Art. 3.1 – marking of test

1. The Board of Examiners will ensure that written tests are to be marked on the basis of predetermined, written standards, possibly adjusted on the basis of a correction.
2. The weighting of the interim results in reaching the end result is laid down in the course manual.
3. If more than one examiner is involved in the marking of a test, the Board of Examiners must ensure that all examiners mark it on the basis of the same standards.
4. The manner of marking must be such that the student can check how the result of his or her test was reached.
5. With only one examiner present a recording of an oral test is made. In case of more than one examiner present, one of the examiners makes notes listing the topics that are being addressed and whether the students masters the subject(s). Recordings or notes are kept by the examiner for three months and can be viewed or listened to by the student who took the oral test.
6. If in the case of practical exercises several students contribute towards a single joint project, the following rules apply:
   a. the guideline for the individual or collective marking of group work must be established beforehand by the lecturer and notified to the student;
   b. the supervisor will regularly satisfy himself or herself that all students make a proportional contribution to the end product;
   c. students may be marked individually on the basis of the work they have performed.
7. The last mark given will apply in assessing the result of a test/course.

Art. 3.2 – assessment of thesis, research assignments, graduate theses

1. The Board of Examiners will ensure that the assessment criteria for the thesis, research assignments and graduate theses are laid down and that these are included in the course or thesis manual.
2. If in the case of practical exercises several students contribute towards a single joint project, the Board of Examiners will use the following guidelines:
   a. agreements on the division of tasks among the students who are to perform the work must be set out in writing by the examiner(s) responsible prior to the start of the work;
   b. students will be marked individually on the basis of the work they have performed.
3. A thesis must be assessed and marked by two examiners. If the first and second examiner cannot reach agreement, the Board of Examiners will appoint a third assessor who will give a binding final opinion.
4. The examiners will provide an explanation, using an assessment form, of the manner in which the final mark has been reached.

Art. 3.3 – subsequent discussion

1. As soon as possible after the result of an oral test is made known, if a student so requests or on the initiative of the examiner a subsequent discussion will be held.
between the examiner and the student, in which the examiner will give reasons for the decision.

2. During a period of 30 days, starting on the day after the results of a written test were made known, the student may request a discussion with the examiner. The discussion will be held at a place and time determined by the examiner.

3. If a collective discussion is organized, the student can submit a request as referred to in the second paragraph only if he or she was present at the collective discussion and he or she gives reasons for that request, or if he or she was prevented by force majeure from attending the collective discussion.

4. The provisions of the preceding paragraph will apply by analogy if the examiner offers the student the opportunity to compare his or her answers with model answers.

**Art. 3.4 – recording the final results**

Final results of a course unit will be entered in Osiris following authorization by the examiner.

**PARAGRAPH 4 – ASSURING THE QUALITY OF EXAMINATIONS**

**Art. 4.1 – assuring the quality of testing**

The Board of Examiners will ensure that:

a. a testing policy/testing plan is in place, and that this is implemented;

b. tests are compiled in line with the learning objectives and final attainment levels for the course in question;

c. uniform agreements are made on the way in which tests are compiled.

**Art. 4.2 – determining the quality of testing**

1. The testing panel is charged with providing analysis and advice concerning the quality of the tests. To this end, it will test the quality of individual tests on the basis of random samples – and following complaints, evaluation of results, pass rates and suchlike – in relation to the validity (they measure knowledge, skills and competences) and reliability (are they consistent and accurate) and will inform the Board of Examiners of their findings.

2. The Board of Examiners may order the testing panel to provide information, undertake research and make proposals concerning the structure of the tests. The testing panel is obliged to follow these orders. The testing panel is responsible to the Board of Examiners for carrying out these orders.

**Art. 4.3 – assuring the quality of examinations (final level of the graduates)**

The Board of Examiners will ensure that:

a. the exit qualifications for the course as described in the Education and Examination Regulations are translated into testable learning objectives for each course;

b. it is systematically examined whether there is a sufficient connection between the course objectives and the final attainment levels, or the sum of the learning objectives for each course corresponds to the exit qualifications for that course.

**Art. 4.4 – Board of Examiners’ own investigation to maintain quality of examination**

1. A student has passed the examination if all parts of the examination programme have been successfully completed. Contrary to the above, the Board of Examiners may decide that in order to pass the examination the student must have complied with the requirements relating to the Board of Examiners’ own investigation as
referred to in Section 7.10(2) of the Higher Education and Research Act into the knowledge, understanding and competence of the student.

2. The Board of Examiners will only conduct such an investigation if it establishes that there are certain facts or circumstances that lead it to the conclusion that the Board of Examiners cannot vouch for the student having obtained the exit qualifications for the course (as referred to in Art. 3.1 of the Education and Examination Regulations).

PARAGRAPH 5 - EXEMPTIONS, APPROVAL OF COURSE UNITS

Art. 5.1 – exemption

1. Students wishing to receive one or more exemptions, must submit a request with grounds to the Board of Examiners. The request must be signed and contain:
   - the student's name, address and student number
   - a description of the grounds on which the exemption is being sought
   - for which course(s) the exemption is being sought
   - an authenticated copy of the student’s diploma, examination results or proof of tests previously taken
   - and/or a description of the knowledge and experience the student has obtained outside of higher education, accompanied by the relevant documents showing this.

2. The Board of Examiners will submit the request for advice to the examiner(s) charged with the teaching of the course(s) for which the exemption is being sought.

3. The Board of Examiners will decide within 6 weeks of the date of receipt of the request on whether the exemption will be granted. With the exception of academic vacation periods as laid down in the academic calendar and during the fieldwork period.

Art. 5.2 – approval of course units

1. Students wishing to include course units which require prior permission of the Board of Examiners on the grounds of the Education and Examination Regulations must submit a request, giving reasons, to the Board of Examiners. The request must be signed and contain:
   - the student's name, address and student number;
   - a description of the contents, level and assessment of the courses for which approval is being sought;
   - an indication of the way in which the student wishes to include the course(s) in the education programme.

2. The Board of Examiners will submit the request, if necessary, to the programme coordinator or a specialist lecturer for the course for advice.

3. The Board of Examiners will decide within 6 weeks of the date of receipt of the request. With the exception of academic vacation periods as laid down in the academic calendar and during the fieldwork period.

4. If approval concerns course units outside UU, following their completion the student will submit a certified transcript or student progress monitoring summary.

5. Based on the certified transcript, course content description(s) and to request further substantiation by the student, the Board of Examiners grants level and EC to a mastercourse outside the UU.

6. If the course information (as referred to in art. 5.2.5) proves to be insufficient to determine the studyload, the Board of Examiners will grant 1 EC.

7. The Board of Examiners determines the number of EC and the mark for individual components that are obtained abroad on the basis of the faculty conversion table.
PARAGRAPH 6 – COMPLAINTS

Art. 6.1 - Complaints about testing and marking

1. The first point of contact for students with a complaint about testing and marking is the lecturer, who as the examiner is responsible for determining the result of the test. If there are several examiners for the course, the course coordinator is the first point of contact as the 'representative' for all examiners involved in the test (provided that the course coordinator is also an examiner). The lecturer or course coordinator will endeavour to reach a solution in an informal manner.

2. ‘Testing and marking’ is understood to mean all situations where there is a formal assessment moment that leads to a mark or an alphanumerical result relating to learning objectives and exit qualifications that are laid down in the Education and Examination Regulations.

3. If the quality of the test is at issue and the complaint has implications for the result of the test, the lecturer and/or course coordinator will ensure that a quality analysis is carried out to assess whether the test meets the general quality requirements as referred to in paragraph 4. In the case of wide-ranging complaints or complex issues concerning content, third parties will be consulted if necessary, such as a specialist lecturer, a testing expert or the faculty testing panel. The quality analysis will be conducted as soon as possible, preferably before the test results are published.

4. If the quality analysis reveals that the test does not meet one or more quality requirements, the lecturer and/or course coordinator may decide to adjust the marks and the standard. If the final test result has already been published, the amended result may no longer be to the disadvantage of one or more students.

5. The Board of Examiners may make use of its statutory authority pursuant to Section 7.12b (1)(b) of the Higher Education and Research Act: ‘to lay down guidelines and rules from within the framework of the education and examination regulations (...) to assess and establish the result of tests and examinations’. The lecturer and/or course coordinator will observe the guidelines and rules laid down by the Board of Examiners.

PARAGRAPH 7 – FINAL PROVISIONS

Art. 7.1 – amendments

1. Amendments to these regulations will be laid down by the Board of Examiners in a separate decision.

2. An amendment to these regulations does not relate to the current academic year, unless the interests of the students are not harmed as a result in all reasonableness.

Art. 7.2 – entering into force and publication

1. These regulations enter into force on 1 September 2018.

2. The Board of Examiners will ensure the publication of these regulations, as well as any amendment thereto, via the internet.
## Appendix IV  Teaching periods Copernicus Institute of Sustainable Development 2018-2019

This holds only for Master’s courses offered by the Copernicus Institute (codes GEOX-22XX, 23XX, 25XX and 26XX); this might deviate from courses with other (GEO-) codes.

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GEO Intro

3/10: Master open day

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4/12 rep. 1 11/12 rep. 1

break

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7/2 UU Careerday

Friday 12/4 break

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22/4 Easter Monday

27/4 King’s Day

5/5 Liberation Day

14/5 rep. 3 21/5 rep. 3

30/5 Ascension day

10/6 Pentecost

break

31/5 Break

Green = Copernicus

Red = GEO wide
Appendix V  UU-time table 2018-2019

Teaching periods

**Semester I:**
Period 1: Monday 3 September – Friday 9 November
Period 2: Monday 12 November – Friday 1 February

**Semester II:**
Period 3: Monday 4 February – Friday 19 April
Period 4: Monday 22 April – Friday 12 July

Timeslots
A  Monday morning and/or Wednesday morning
B  Tuesday morning and/or Thursday afternoon
C  Monday afternoon and/or Thursday morning
D  Wednesday afternoon, Friday morning and/or Friday afternoon
E  Monday evening, Tuesday evening, Wednesday evening, Thursday evening and/or Friday evening

Course registration (only via Osiris Student: www.uu.nl/osirisstudent)

For period 1: 28 May 2018 up to and including 24 June 2018
- late registration 20 and 21 August 2018

For period 2: 17 September 2018 up to and including 30 September 2018
- late registration 22 and 23 October 2018

For period 3: 29 October 2018 up to and including 25 November 2018
- late registration 21 and 22 January 2019

For period 4: 28 January 2019 up to and including 24 February 2019
- late registration 1 and 2 April 2019