

# Programme-specific part of the Education and Examination Regulations 2025-2026

## Undergraduate School of Geosciences: Bachelor's degree programme in Global Sustainability Science

The programme of the starting year of the student is the leading programme. If the programme is adjusted, the transitional arrangements (conversion of former courses) will be published in the new Education and Examination Regulations.

### Art. 2.1 – Admission requirements

1. In addition to the diplomas specified in the Act that give admission to the degree programme, the holder of a diploma of equivalent previous education listed in the General EER Appendix 1 will be admitted to the degree programme provided that the conditions referred to in Section 2 (below) have been met.
2. Applicants who have completed previous education as stated in the General EER Appendix Par. 1, or who have a diploma for passing a first-year examination at a university of applied sciences may only register for the degree programme after it has been demonstrated that they possess sufficient knowledge at the level of the pre-university (VWO) final examination in accordance with the 2007 profiles in the following subjects: English, Mathematics A or Mathematics B and at least two of the following four subjects: Physics, Chemistry, Biology or Economics.
3. Deficiencies in the prior education of the subjects referred to in Section 2 can be remedied by sitting the relevant tests at Boswell Beta or the central Committees for Preliminary Examinations (*centrale commissies voortentamen*) in Physics, Chemistry, Mathematics and/or Biology. The missing subjects may also be achieved by means of state examinations or adult education. In exceptional cases, the Board of Examiners may ask a university lecturer in the subject concerned to administer one or more tests.

### Art. 2.3 - University entrance examination (colloquium doctum)

The admission test referred to in Section 7.29 of the Act relates to the following subjects at pre-university (VWO) final examination level: English, Mathematics A or Mathematics B and two of the following four subjects: Physics, Chemistry, Biology or Economics.

### Art. 3.1 – Aim of the degree programme

The programme aims to:

- provide knowledge, skills and insight into the field of sustainability science, and enable achievement of the exit requirements referred to in Section 2
- provide an academic education, which means that it aims to develop competences (knowledge, skills and attitudes) related to:
  - academic thought, actions and communication
  - the use of relevant academic instruments
  - (academic) communication in English
  - application of specific knowledge of a field in a broader academic, philosophy of science and socio-cultural context
  - standards of conduct applicable during studies and within the discipline
- provide students with a good command of English at an academic level, both verbally and in writing, in order to function in an international context
- prepare students for further study

From their first year of study onwards, students will learn and understand the theory and practice of scholarly research.

#### 1. General learning outcomes

Students with a Bachelor's degree in *Global Sustainability Science*:

- can acquire, interpret and conceptualise knowledge
- can analyse, structure and synthesise information
- can reason and argue logically, and think analytically and critically
- can apply methods and techniques in a scientific manner in order to solve problems
- can independently keep up to date with developments and new knowledge in their specialism
- can place their knowledge and understanding in a wider scientific and social context
- can convey scientific knowledge to both specialists and non-specialists

In addition, students have:

- a substantive understanding of research in their specialism
- the necessary basis for a university Master's education
- a reflective attitude with regard to their own functioning, individual development and career

2. Domain-specific learning outcomes:

**Knowledge:**

Students with a Bachelor's degree in *Global Sustainability Science* have:

- a basic knowledge and understanding of the nature, extent and causes of sustainability issues at different spatial (local to global) and temporal (short term to long term) scales and the underlying concepts and perspectives, incorporating global perspectives and (culturally) diverse viewpoints
- a basic knowledge and understanding of current and innovative solutions to sustainability issues at different spatial and temporal scales, recognizing differences in approaches and impacts across global regions due to varying social, cultural, economic and environmental contexts
- a basic knowledge and understanding of physical, chemical and biological processes within natural systems; social, ethical and economic processes within social systems; and the interactions between the natural and social systems that contribute to sustainability challenges
- knowledge of the multi-, inter -and transdisciplinary nature of sustainability challenges, including the theories and methods of sustainability research, while recognizing different perspectives on sustainability and the strengths and limitations of multi-, inter-and transdisciplinary approaches
- specific knowledge and understanding of the theories and methods of one of the sub-domains of sustainability issues relating to water, climate & ecosystems, energy & resources, sustainable and healthy food, governance & societal transformation and business & innovation and how this knowledge is applied to design, implement and evaluate innovative context-specific solutions that address real-world sustainability challenges
- the ability to understand and critically analyze the complex social change processes shaping the transformation to a sustainable society focusing on culturally appropriate and inclusive management strategies and being able to assess the effectiveness of those strategies from a social and/or natural science perspective.

**Skills:**

Students with a Bachelor's degree in *Global Sustainability Science* can:

- apply the elementary knowledge and insights acquired to analyze and solve sustainability challenges at different levels of spatial and temporal scales, considering the complexities of different international and cultural contexts
- formulate simple research questions, formulate hypotheses and statements for observation, test hypotheses and apply research methods in a sustainability study
- carry out empirical research, using techniques from natural sciences and/or social sciences including making a reasoned choice for quantitative and/or qualitative methods, to process, analyse and correlate, interpret and/or model collected data, and to present the results in writing in an appropriate form (e.g. map or graph)
- find relevant literature and information on sustainability, and can study, analyse, assess and evaluate this literature and information critically
- collaborate effectively and respectfully as a sustainability expert with specialists and peers from other disciplines and with stakeholders beyond academia, and have the ability to confront, integrate, and reflect on the insights and approaches from these various disciplines and perspectives within inter- and transdisciplinary teams.
- Collaborate in inter-and transdisciplinary teams to co-create solutions to specific sustainability issues together with stakeholders, focusing on the practical application of theoretical frameworks
- produce and orally present written work in English on their specialism and their own work, appropriate to an audience of specialists and non-specialists alike
- reformulate a practical question or scientific problem in their specialism as a clear and researchable problem, effectively operationalise the terms therein, develop a usable conceptual framework, present the result in a coherent argument that ends with a clear, synthesising conclusion, use the results to answer the practical question or contribute to clarifying and solving the problem as far as possible, and express an opinion that is also based on weighing up relevant social, scientific or ethical aspects.

**Attitude:**

Students with a Bachelor's degree in *Global Sustainability Science* demonstrate:

- a scientific attitude (objective, critical, ethical, etc.) in describing, explaining and predicting phenomena
- a professional attitude in carrying out their work in an international context
- an awareness of the effects and consequences of human activity on the sustainability of natural and socio-economic systems and of the moral aspects of sustainable development and the need for the sustainable management of the Earth.
- an appreciation for diverse perspectives, acknowledging the importance of varied viewpoints and experiences, foster inclusive sustainability dialogues and have respect for their peers, other individuals, stakeholders beyond academia and the natural world, valuing contributions from all backgrounds, and treating each other with humility, dignity, and empathy

### Art. 3.3 – Language of instruction

The programme is taught in English. Annex 4 states the reasons behind language policy for the degree programme as well as the language of instruction and the language of assessment for each course in the major GSS.

### Art. 3.5 – Major

1. The degree programme comprises a part (the major) with a study load of 135 credits that concerns sustainability science. The components listed in Appendix 1A (cohort 2022) and Appendix 2A (cohort 2023 and later), with a total study load of 60 credits, are compulsory.
2. The students choose the other components of the major from the components listed in Appendix 1B (cohort 2022) and Appendix 2B (cohort 2023 and later).
3. Components that also relate to the scientific and social context of sustainability science, with a study load of at least 15 credits, must form part of the major.
4. The components of the major must be at in-depth level for at least 37.5 credits and at advanced level for at least 45 credits.
5. The major includes a thesis with a study load of 15 credits, in which, as proof of competence, the student has the option of producing a paper independently, bringing together the required knowledge, skills and attitudes.

### Art. 4.2 – Entry requirements for courses; prior knowledge

1. For each component, Appendix 3 describes the entry requirements that must be met to be allowed to take part.
2. Without prejudice to the provisions in Section 1, the University Course Catalogue and the prospectus state for each course what prior knowledge is required in order to take part in the course successfully.
3. If courses in the major are provided by a different degree programme, the entry requirements as set out in the Education and Examination Regulations for that course are applicable.

### Art. 4.7 – Evaluation of the quality of education

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

## Appendices

### Appendix 1: Exam programme Global Sustainability Science (cohort 2022)

#### A. Compulsory components of the major (60 EC)

<i>a. Courses at level 1 (introductory)</i>	
- Sustainability Challenges	7.5 EC
- Mathematics and Systems Analysis	7.5 EC
- Natural Processes	7.5 EC
- Foundations of Social Sciences for Sustainability	7.5 EC
- Research Skills GSS	7.5 EC
- Regional Integration Project	7.5 EC
<i>b. Courses at level 2 (in-depth)</i>	
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- Statistics GSS	7.5 EC
- Global Transformation Project	7.5 EC

#### B. Optional components of the major (75 EC)

*WCE = Water, Climate & Ecosystems*

*E&R = Energy & Resources*

*GST = Governance & Societal Transformation*

*B&I = Business & Innovation*

*b. Track-specific courses at level 1 (introductory)*

Choice 1 out of 4:

- WCE: Chemistry and the Environment 7.5 EC
- E&R: Science of Energy Technologies 7.5 EC
- GST: Politics of the Earth 7.5 EC
- B&I: Principles of Economics 7.5 EC

*b. Track-specific courses at level 2 (in-depth)*

Choice 2 out of 8:

- WCE: Global Climate Change 7.5 EC
- WCE: Ecological Field Research 7.5 EC
- E&R: Applied Thermodynamics & Energy Conversions 7.5 EC
- E&R: Global Climate Change 7.5 EC
- GST: Policy Evaluation and Design 7.5 EC
- GST: Environmental Law 7.5 EC
- B&I: Organisation & Innovation 7.5 EC
- B&I: Economics of Innovation 7.5 EC

*c. Non-track-specific courses at level 2 (in-depth)*

Choice 1 out of 2:

- Philosophy of Science and Ethics 7.5 EC
- Environmental Communication and Behaviour 7.5 EC

*d. Track-specific courses at level 3 (advanced)*

Choice 3 out of 5 or 6:

- WCE: Integrated Water and Soil Management 7.5 EC
- WCE: Ecohydrology 7.5 EC
- WCE: Landscape Ecology and Nature Conservation 7.5 EC
- WCE: Environmental Chemistry and Health 7.5 EC
- WCE: Land Change Science 7.5 EC
- WCE: Environmental Impact Assessment 7.5 EC
- E&R: Sustainable Energy Supply 7.5 EC
- E&R: Land Change Science 7.5 EC
- E&R: Life Cycle Assessment 7.5 EC
- E&R: Sustainable Resource Use 7.5 EC
- E&R: Energy Analysis 7.5 EC
- E&R: Energy Markets 7.5 EC
- GST: Sustainable Energy Supply 7.5 EC
- GST: Landscape Ecology and Nature Conservation 7.5 EC
- GST: Sustainable Land Use 7.5 EC
- GST: Integrated Water and Soil Management 7.5 EC
- GST: Environmental Impact Assessment 7.5 EC
- B&I: Business, Sustainability and Innovation 7.5 EC
- B&I: Innovation Strategies of Firms and Entrepreneurs 7.5 EC
- B&I: Sustainable Resource Use 7.5 EC
- B&I: Energy Analysis 7.5 EC
- B&I: Life Cycle Assessment 7.5 EC
- B&I: Energy Markets 7.5 EC

Choice 1 out of 4

- Bachelor's thesis WCE 15 EC
- Bachelor's thesis E&R 15 EC
- Bachelor's thesis GST 15 EC
- Bachelor's thesis B&I 15 EC

*e. Non-track-specific courses at level 3 (advanced)*

Choice 1 out of 2:

- Consultancy Project 7.5 EC
- Consultancy Project Aruba GSS (only for selected students) 7.5 EC

When choosing the major elective courses, the following rule applies:

Students must choose courses from their own track at levels 1, 2 and 3, and two non-track-specific courses, one at level 2 and one at level 3.

**Conversion of former courses**

<b>Old course 2024-2025</b>	<b>New course 2025-2026</b>
Sustainable Resource Use (GEO3-2421)	Material Flow Analysis for Resilient Societies (GEO3-2421)
Duurzame Ontwikkeling (GEO1-2103)	Inleiding Duurzame Ontwikkeling (GEO1-2103)

## Appendix 2: Exam programme Global Sustainability Science (cohort 2023 and later)

### A. Compulsory components of the major (60 EC)

a.	<i>Courses at level 1 (introductory)</i>	
-	Sustainability Challenges	7.5 EC
-	Mathematics and Systems Analysis	7.5 EC
-	Natural Processes	7.5 EC
-	Foundations of Social Sciences for Sustainability	7.5 EC
-	Research Skills GSS	7.5 EC
-	Regional Integration Project	7.5 EC
b.	<i>Courses at level 2 (in-depth)</i>	
-	Statistics GSS	7.5 EC
-	Global Transformation Project	7.5 EC

### B. Optional components of the major (75 EC)

*WCE = Water, Climate & Ecosystems*  
*E&R = Energy & Resources*  
*GST = Governance & Societal Transformation*  
*B&I = Business & Innovation*  
*SHF = Sustainable and Healthy Food*

a.	<i>Track-specific courses at level 1 (introductory)</i>	
Choice 1 out of 5:		
-	WCE: Chemistry and the Environment	7.5 EC
-	E&R: Science of Energy Technologies	7.5 EC
-	GST: Politics of the Earth	7.5 EC
-	B&I: Principles of Economics	7.5 EC
-	SHF: The Science of Food Systems	7.5 EC
b.	<i>Track-specific courses at level 2 (in-depth)</i>	
Choice 2 out of 10:		
-	WCE: Global Climate Change	7.5 EC
-	WCE: Ecological Field Research	7.5 EC
-	E&R: Applied Thermodynamics & Energy Conversions	7.5 EC
-	E&R: Global Climate Change	7.5 EC
-	GST: Policy Evaluation and Design	7.5 EC
-	GST: Environmental Law	7.5 EC
-	B&I: Organisation Theories	7.5 EC
-	B&I: Innovation for Sustainability	7.5 EC
-	SHF: Agroecology	7.5 EC
-	SHF: Sustainable and Healthy Food Consumption	7.5 EC
c.	<i>Non-track-specific courses at level 2 (in-depth)</i>	
Choice 1 out of 2:		
-	Philosophy of Science and Ethics	7.5 EC
-	Environmental Communication and Behaviour	7.5 EC
d.	<i>Track-specific core courses at level 3 (advanced)</i>	
Choice 1 out of 5:		
-	WCE: Ecohydrology	7.5 EC
-	E&R: Energy Analysis	7.5 EC
-	GST: Sustainable Land Use	7.5 EC
-	B&I: Business, Sustainability and Innovation	7.5 EC
-	SHF: Transforming Food Systems	7.5 EC
e.	<i>Track-specific bachelor thesis at level 3 (advanced)</i>	
Choice 1 out of 5:		
-	Bachelor's thesis WCE	15 EC
-	Bachelor's thesis E&R	15 EC
-	Bachelor's thesis GST	15 EC
-	Bachelor's thesis B&I	15 EC
-	Bachelor's thesis SHF	15 EC

f. *Non-track-specific courses at level 3 (advanced)*

Choice 1 out of 2:

- Consultancy Project 7.5 EC
- Consultancy Project Aruba GSS (only for selected students) 7.5 EC

Choice 2 out of 15:

- Ecohydrology 7.5 EC
- Landscape Ecology and Nature Conservation 7.5 EC
- Environmental Chemistry and Health 7.5 EC
- Land Change Science 7.5 EC
- Life Cycle Assessment 7.5 EC
- Energy Markets 7.5 EC
- Sustainable Energy Supply 7.5 EC
- Sustainable Land Use 7.5 EC
- Integrated Water and Soil Management 7.5 EC
- Environmental Impact Assessment 7.5 EC
- Business, Sustainability and Innovation 7.5 EC
- Innovation Strategies of Firms and Entrepreneurs 7.5 EC
- Material Flow Analysis for Resilient Societies 7.5 EC
- Energy Analysis 7.5 EC
- Transforming Food Systems 7.5 EC

When choosing the major elective courses, the following rule applies:

Students must choose:

- all courses from their own track at levels 1 and 2
- one non-track specific course at level 2
- one track-specific core courses from their own track at level 3
- one track-specific bachelor thesis from their own track at level 3
- and three non-track specific courses at level 3.

**Conversion of former courses**

<b>Old course 2024-2025</b>	<b>New course 2025-2026</b>
Sustainable Resource Use (GEO3-2421)	Material Flow Analysis for Resilient Societies (GEO3-2421)
Duurzame Ontwikkeling (GEO1-2103)	Inleiding Duurzame Ontwikkeling (GEO1-2103)

**Appendix 3: Entrance requirements and course exclusions 2025-2026**

<b>Course</b>	<b>Entrance requirements</b>
Regional Integration Project (GEO1-2416)	<b>Entrance requirements:</b> Research Skills GSS (GEO1-2415) must be followed parallel to Regional Integration Project (GEO1-2416).
Environmental Communication and Behaviour (GEO2-2429)	<b>Entrance requirements:</b> At least 45 EC gained.
Global Climate Change (GEO2-2143)	<b>Entrance requirements:</b> Passed Wiskunde en Systeemanalyse (GEO1-2202) or Mathematics & Systems Analysis (GEO1-2411) or Wiskunde voor Aardwetenschappers (GEO1-1103) or Wiskunde en Statistiek voor AW (GEO1-1134) or Systeembioologie (B-B1SYSB09) or Kwantitatieve biologie (B-B1KWBI20) or a comparable course
Statistics GSS (GEO2-2428)	<b>Entrance requirements:</b> Participated fully in Research skills GSS (GEO1-2415)
Global Transformation Project (GEO2-2417)	<b>Entrance requirements:</b> Passed Research skills GSS (GEO1-2415) and Regional Integration Project (GEO1-2416). Participated fully in Statistics GSS (GEO2-2428)
The Sustainability Game (GEO2-2425)	<b>Entrance requirements:</b> At least 45 EC gained
Futuring for Sustainability (GEO2-2427)	<b>Entrance requirements:</b> At least 45 EC gained
International Sustainability Field trip (GEO2-2433)	<b>Entrance requirements:</b> At least 60 EC gained. Passed Research skills GSS (GEO1-2415) and Regional Integration Project (GEO1-2416).
Ecological Field Research (GEO2-2439)	<b>Entrance requirements:</b> Passed Research Skills (GEO1-2415) Participated fully in Statistics (GEO2-2428)
Business, Sustainability and Innovation (GEO3-2122)	<b>Entrance requirements:</b> At least 90 EC gained. <b>Assumed prior knowledge:</b>

	<ul style="list-style-type: none"> <li>- Principles of Economics (GEO1-2435)</li> </ul> <p>and 1 out of 2:</p> <ul style="list-style-type: none"> <li>- Organisation Theories (GEO2-2218)</li> <li>- Organisation and Innovation (GEO2-2418)</li> </ul> <p>And 1 out of 2:</p> <ul style="list-style-type: none"> <li>- Innovation for Sustainability (GEO2-2437)</li> <li>- Economics of Innovation (GEO2-2211)</li> </ul>
Innovation Strategies of Firms and Entrepreneurs (GEO3-2221)	<p><b>Entrance requirements:</b> At least 90 EC gained.</p> <p><b>Assumed prior knowledge:</b></p> <ul style="list-style-type: none"> <li>- Principles of Economics (GEO1-2435)</li> </ul> <p>and 1 out of 2:</p> <ul style="list-style-type: none"> <li>- Organisation Theories (GEO2-2218)</li> <li>- Organisation and Innovation (GEO2-2418)</li> </ul> <p>And 1 out of 2:</p> <ul style="list-style-type: none"> <li>- Innovation for Sustainability (GEO2-2437)</li> <li>- Economics of Innovation (GEO2-2211)</li> </ul>
Sustainable Land Use (GEO3-2121)	<p><b>Entrance requirements:</b> Passed at least 90 EC.</p> <p><b>Assumed prior knowledge:</b></p> <ul style="list-style-type: none"> <li>- Politics of the Earth (GEO1-2414)</li> <li>- Policy Evaluation and Design (GEO2-2113)</li> <li>- Environmental Law (GEO2-2424)</li> </ul>
Ecohydrology (GEO3-2440)	<p><b>Entrance requirements:</b> Passed at least 90 EC.</p> <p><b>Assumed prior knowledge:</b></p> <ul style="list-style-type: none"> <li>- Chemistry and the Environment (GEO1-2206)</li> <li>- Global Climate Change (GEO2-2143)</li> <li>- Ecological Field Research (GEO2-2439)</li> </ul>
Energy Analysis (GEO3-2442)	<p><b>Entrance requirements:</b> Passed at least 90 EC.</p> <p><b>Assumed prior knowledge:</b></p> <ul style="list-style-type: none"> <li>- Science of Energy Technologies (GEO1-2203)</li> <li>- Applied Thermodynamics and Energy Conversions (GEO2-2212)</li> </ul>
Transforming Food Systems (GEO3-2441)	<p><b>Entrance requirements:</b> Passed at least 90 EC.</p> <p><b>Assumed prior knowledge:</b></p> <ul style="list-style-type: none"> <li>- The Science of Food Systems (GEO1-2434)</li> <li>- Agroecology (GEO2-2436)</li> <li>- Sustainable and Healthy Food Consumption (GEO2-2438)</li> </ul>
Landscape Ecology and Nature Conservation (GEO3-2140)	<p><b>Assumed prior knowledge:</b></p> <p>Basic knowledge of system ecology and ecological theories. Previous knowledge can be gained by:</p> <ul style="list-style-type: none"> <li>- Natural Processes (GEO1-2412)</li> <li>- Regional Integration Project (GEO1-2416)</li> <li>- Ecohydrology (GEO2-2131 or GEO3-2440)</li> </ul> <p>Resources for self-study:  Begon, Howarth and Townsend (2014) Essentials of Ecology, 14th edition, ISBN 7804 7090 9133. Scientific literature or similar general ecological textbooks, some of which are available with open-access online.</p>
Sustainable Energy Supply (GEO3-2420)	<p><b>Assumed prior knowledge:</b></p> <p>It is assumed that students have successfully completed the first two years of the GSS curriculum (or another study curriculum whose students are entitled to enrol for the course). Students should be familiar with basic mathematical calculations and physics concepts.</p>
Land Change Science (GEO3-2419)	<p><b>Assumed prior knowledge:</b></p> <p>It is recommended you followed, understood and passed the following courses:</p> <ul style="list-style-type: none"> <li>- Mathematics and Systems Analysis (GEO1-2411)</li> <li>- Natural Processes (GEO1-2412)</li> <li>- Global Climate Change (GEO2-2143)</li> <li>- Research Skills (GEO1-2415)</li> </ul> <p>Previous knowledge can be gained by:</p> <ul style="list-style-type: none"> <li>- Academic writing, e.g.: Hannay, M. and Mackenzie, J.L. 2013. Effective writing in English. Coutinho bv, Bussum, The Netherlands.</li> <li>- Library skills, e.g.: <a href="https://www.uu.nl/en/university-library/help-in-searching/libguides">https://www.uu.nl/en/university-library/help-in-searching/libguides</a></li> </ul> <p>Resources for self-study:  It is assumed you are proficient in Excel, Academic Writing and in library skills (finding relevant literary and use proper referencing).</p>

Environmental Chemistry and Health (GEO3-2119)	<p><b>Assumed prior knowledge</b></p> <ul style="list-style-type: none"> <li>• Basic knowledge of biochemistry and physiology; moderate knowledge of chemistry; moderate knowledge of and skills in statistics.</li> <li>• It is highly advised to have completed at least the first year of the Bachelor's programme.</li> </ul> <p>To achieve a moderate knowledge level of and skills in statistics, it is recommended to have completed the Statistics course (GEO2-2428).</p> <p>Previous knowledge can be gained by: Chemistry and the Environment (GEO1-2206), Research Skills GSS (GEO1-2515) and Statistics (GEO2-2428)</p>
Energy Markets (GEO3-2430)	<p><b>Assumed prior knowledge:</b></p> <p>Useful prior knowledge derives from the following courses: Mathematics and Systems Analysis (GEO1-2411), Science of Energy Technologies (GEO1-2203), Policy Evaluation and Design (GEO2-2113), and Principles of Economics (GEO1-2435/GEO1-2255).</p>
Integrated Water and Soil Management (GEO3-2133)	<p><b>Assumed prior knowledge:</b></p> <ul style="list-style-type: none"> <li>• Basic insight in hydrology, physical geography, soil characteristics.</li> </ul> <p>Previous knowledge can be gained by:</p> <ul style="list-style-type: none"> <li>- GEO1-2412 GSS-Natural Processes</li> <li>- GEO1-4192 AW-Systeem aarde 2</li> </ul> <p>Resources for self-study:</p> <ul style="list-style-type: none"> <li>• Hendriks, M.R. (2010), Introduction to Physical Hydrology, Oxford University Press, ISBN 0199296847.</li> <li>• Chapters 12, 13 and 20 from: G. Tyler Miller Jr. and Scott E. Spoolman (2016), Living in the environment, 19th edition.</li> </ul>
Life Cycle Assessment (GEO3-2124)	<p><b>Assumed prior knowledge:</b> You should be familiar with basic mathematical calculations and physics concepts.</p>
Environmental Impact Assessment (GEO3-2123)	n/a
Material Flow Analysis for Resilient Societies (GEO3-2421)	n/a
Bachelor's thesis GSS (GEO3-2422) cohort 2022 and earlier	<p><b>Entrance requirements:</b> Passed all major obligatory courses GSS apart from Statistics GSS (GEO2-2428) and Consultancy Project (GEO3-2423) or Consultancy Project Aruba GSS (GEO3-2432); Participated fully in Statistics GSS (GEO2-2428) and Consultancy Project (GEO3-2423) or Consultancy Project Aruba GSS (GEO3-2432); Passed all track courses of the student's chosen track on level 1 and 2; Passed at least 1 track course of the student's chosen track on level 3.</p>
Bachelor's thesis GSS (GEO3-2422) cohort 2023 and later (as of academic year 2025/26)	<p><b>Entrance requirements:</b></p> <p>Passed:</p> <ul style="list-style-type: none"> <li>• Sustainability Challenges (GEO1-2410)</li> <li>• Mathematics &amp; SA (GEO1-2411)</li> <li>• Natural Processes (GEO1-2412)</li> <li>• Found. of Soc. Sc. for Sust. (GEO1-2413)</li> <li>• Research Skills GSS (GEO1-2415)</li> <li>• Regional Integration Project (GEO1-2416)</li> <li>• Global Transformation Project (GEO2-2417)</li> </ul> <p>Passed all obligatory track courses of the student's chosen track on level 1 and 2.</p> <p>Passed at least 1 major elective course on level 3.</p> <p>Actively participated in:</p> <ul style="list-style-type: none"> <li>• Statistics GSS (GEO2-2428)</li> <li>• Consultancy Project (GEO3-2423) or Consultancy Project Aruba (GEO3-2432)</li> </ul> <p>Actively participated in the obligatory level 3 track course (1 of 5):</p> <ul style="list-style-type: none"> <li>• Ecohydrology (GEO3-2440)</li> <li>• Business, Sustainability and Innovation (GEO3-2122)</li> <li>• Energy Analysis (GEO3-2442)</li> <li>• Sustainable Land Use (GEO3-2121)</li> <li>• Transforming Food Systems (GEO3-2441)</li> </ul>

<p>Bachelor's thesis for LAS-DO students (started specialization Duurzame Ontwikkeling in 2023/2024) (GEO3-2422)</p>	<p><b>Entrance requirements:</b>  Passed:  <ul style="list-style-type: none"> <li>• Mathematics &amp; Systems Analysis (GEO1-2411)</li> <li>• Research Skills (GEO1-2415)</li> <li>• Duurzame Ontwikkeling (GEO1-2103)</li> <li>• Natural Processes (GEO1-2412)</li> </ul> Participated fully in Statistics GSS (GEO2-2428) and at least 1 course at level 3 of your course package.</p> <p>The following courses of your course package:  Package E&amp;R, passed:  <ul style="list-style-type: none"> <li>• Science of Energy Technologies (GEO1-2203)</li> <li>• Applied Thermodynamics and Energy Conversions (GEO2-2212)</li> </ul> Package WCE:  <ul style="list-style-type: none"> <li>• Passed: Chemistry and the Environment (GEO1-2206)</li> <li>• Fully participated in Global Climate Change (GEO2-2143)</li> </ul> Package GST, passed:  <ul style="list-style-type: none"> <li>• Politics of the Earth (GEO1-2414)</li> <li>• Policy Evaluation and Design (GEO2-2113)</li> </ul> Package B&amp;I, passed:  <ul style="list-style-type: none"> <li>• Principles of Economics (GEO1-2435)</li> </ul> And passed at least 1 out of 2:  <ul style="list-style-type: none"> <li>• Economics of Innovation (GEO2-2211)</li> <li>• Organisation &amp; Innovation (GEO2-2418)</li> </ul> </p>
<p>Bachelor's thesis for LAS-DO students (started specialization Duurzame Ontwikkeling in 2024/2025 or later) (GEO3-2422)</p>	<p><b>Entrance requirements:</b>  Passed at least 120 EC.  Passed:  <ul style="list-style-type: none"> <li>• Mathematics &amp; Systems Analysis (GEO1-2411)</li> <li>• Research Skills (GEO1-2415)</li> <li>• Duurzame Ontwikkeling (GEO1-2103)</li> <li>• Natural Processes (GEO1-2412)</li> </ul> Participated fully in Statistics GSS (GEO2-2428) and at least 1 course at level 3 of your course package.</p> <p>The following courses of your course package:  Package E&amp;R, passed:  <ul style="list-style-type: none"> <li>• Science of Energy Technologies (GEO1-2203)</li> <li>• Applied Thermodynamics and Energy Conversions (GEO2-2212)</li> </ul> Package WCE:  <ul style="list-style-type: none"> <li>• Passed: Chemistry and the Environment (GEO1-2206)</li> <li>• Fully participated in Global Climate Change (GEO2-2143)</li> </ul> Package GST, passed:  <ul style="list-style-type: none"> <li>• Politics of the Earth (GEO1-2414)</li> <li>• Policy Evaluation and Design (GEO2-2113)</li> </ul> Package B&amp;I, passed:  <ul style="list-style-type: none"> <li>• Principles of Economics (GEO1-2435)</li> </ul> And passed at least 1 out of 2:  <ul style="list-style-type: none"> <li>• Innovation for Sustainability (GEO2-2437)</li> <li>• Organisation Theories (GEO2-2218)</li> </ul> </p>
<p>Consultancy Project (GEO3-2423)</p>	<p><b>Entrance requirements:</b> At least 90 EC gained in the major GSS, amongst which:  <ul style="list-style-type: none"> <li>- Sustainability Challenges (GEO1-2410), and</li> <li>- Regional Integration Project (GEO1-2416), and</li> <li>- Global Transformation Project or Global Integration Project (GEO2-2417)</li> </ul> </p>
<p>Tailor-made course GSS (GEO3-2426)</p>	<p><b>Entrance requirements:</b> Passed all major GSS obligatory courses of year 1;  Passed at least one GSS major elective course of year 1;  <ul style="list-style-type: none"> <li>• Little to no study delay.</li> <li>• The course can only be taken if a lecturer from the GSS programme can be found to supervise the student (depends a.o. on available time, expertise and field of interest of the lecturer).</li> <li>• Approval received by the project supervisor and course</li> </ul> </p>

	coordinator at least 1 month prior to the start of the course. • Execute within a timeframe of no more than two education periods (22 weeks).
Consultancy Project Aruba GSS (GEO3-2432)	<b>Entrance requirements:</b> At least 90 EC gained in the major GSS, amongst which: <ul style="list-style-type: none"> <li>- Sustainability Challenges (GEO1-2410), and</li> <li>- Regional Integration Project (GEO1-2416), and</li> <li>- Global Transformation Project or Global Integration Project (GEO2-2417)</li> </ul> Students will go through a separate selection process for this course. Only selected students can take the course.

## Course exclusions 2025-2026

<b>Students that have to take or have passed:</b>	<b>... cannot include in their exam programme:</b>
GEO1-1122 Chemistry of the Earth	GEO1-2206 Chemistry and the Environment
GEO1-2103 (Inleiding) Duurzame Ontwikkeling	GEO1-2410 Sustainability Challenges
GEO1-2202 Wiskunde en Systeemanalyse	GEO1-2411 Mathematics and Systems Analysis
GEO1-2204 Onderzoeksvaardigheden NW&I	GEO1-2415 Research Skills GSS / GEO2-2204 Onderzoeksvaardigheden NW&I
GEO1-2255 Principles of Economics	GEO1-2278 Economics and Technology/GEO1-2435 Principles of Economics
GEO1-2272 Management E&T Technologieën	GEO3-2282 Management van Energie- en Transportinnovaties
GEO1-2278 Economics and Technology	GEO1-2435 Principles of Economics / ECB1MI Microeconomics, Institutions and Welfare
GEO1-2410 Sustainability Challenges	GEO1-2103 (Inleiding) Duurzame Ontwikkeling
GEO1-2411 Mathematics and Systems Analysis	GEO1-2202 Wiskunde en Systeemanalyse
GEO1-2415 Research Skills GSS	GEO2-2204 Onderzoeksvaardigheden NW&I
GEO1-2435 Principles of Economics	GEO1-2278 Economics and Technology / GEO1-2255 Principles of Economics
GEO2-2116 Milieu, Gedrag en Communicatie	GEO2-2429 Environmental Communication and Behaviour
GEO2-2131 Ecohydrology	GEO2-2439 Ecological Field Research /GEO3-2440 Ecohydrology
GEO2-2143 Global Climate Change	BETA-B1KLC Climate change in context
GEO2-2204 Onderzoeksvaardigheden NW&I	GEO1-2415 Research Skills GSS
GEO2-2211 Economics of Innovation	GEO1-2278 Economics and Technology
GEO2-2217 Statistics NW&I	GEO2-2428 Statistics GSS
GEO2-2418 Organisation and Innovation	GEO2-2218 Organisation Theories /GEO1-2201 Introductie Technologie en Innovatie
GEO2-2428 Statistics GSS	GEO2-2217 Statistics NW&I
GEO3-2223 Energy Analysis	GEO3-2442 Energy Analysis
GEO3-2423 Consultancy Project GSS	GEO3-2432 Consultancy Project Aruba GSS
GEO3-2432 Consultancy Project Aruba GSS	GEO3-2423 Consultancy Project GSS
BETA-B1KM Climate and Society	GEO1-2443 Climate and Society
BETA-B1KLC Climate change in context	GEO2-2143 Global Climate Change
ECB1MI Microeconomics, Institutions and Welfare	GEO1-2278 Economics and Technology

## Appendix 4: Language policy

The language instruction of Global Sustainability Science is English, for several reasons. Sustainability is an issue that affects the entire world, and addressing challenges such as climate change, sustainable use of resources and food security and fairness is inherently international and draws upon expertise from scientists as well as stakeholders worldwide. A diverse and international classroom increases the ability to study these topics from multiple perspectives, which is an essential part of the learning experience. Teaching in English makes it possible for students from different countries and backgrounds to communicate and collaborate effectively, and to function effectively in an international context in their future careers.

English is widely accepted as the lingua franca in international research, and many of our researchers come from countries outside the Netherlands. It is important that students can benefit from their expertise, and teaching in English facilitates this exchange. It also prepares students for a relevant Master's programme in English.

## Language of instruction and language of assessment courses in major GSS

Course code	Course title	Instruction	Assessment
GEO1-2203	Science of Energy Technologies	English	English
GEO1-2206	Chemistry and the Environment	English	English
GEO1-2410	Sustainability Challenges	English	English
GEO1-2411	Mathematics and Systems Analysis	English	English
GEO1-2412	Natural Processes	English	English
GEO1-2413	Foundations of Social Sciences for Sustainability	English	English
GEO1-2414	Politics of the Earth	English	English
GEO1-2415	Research Skills GSS	English	English
GEO1-2416	Regional Integration Project	English	English
GEO1-2434	The Science of Food Systems	English	English
GEO1-2435	Principles of Economics	English	English
GEO2-2113	Policy Evaluation and Design	English	English
GEO2-2142	Philosophy of Science and Ethics	English	English
GEO2-2143	Global Climate Change	English	English
GEO2-2212	Applied Thermodynamics and Energy Conversions	English	English
GEO2-2218	Organisation Theories	English	English
GEO2-2417	Global Transformation Project	English	English
GEO2-2424	Environmental Law	English	English
GEO2-2428	Statistics GSS	English	English
GEO2-2429	Environmental Communication and Behaviour	English	English
GEO2-2436	Agroecology	English	English
GEO2-2437	Innovation for Sustainability	English	English
GEO2-2438	Sustainable and Healthy Food Consumption	English	English
GEO2-2439	Ecological Field Research	English	English
GEO3-2119	Environmental Chemistry and Health	English	English
GEO3-2121	Sustainable Land Use	English	English
GEO3-2122	Business, Sustainability & Innovation	English	English
GEO3-2123	Environmental Impact Assessment	English	English
GEO3-2124	Life Cycle Assessment	English	English
GEO3-2133	Integrated Water and Soil Management	English	English
GEO3-2140	Landscape Ecology & Nature Conservation	English	English
GEO3-2221	Innovation Strategies of Firms and Entrepreneurs	English	English
GEO3-2419	Land Change Science	English	English
GEO3-2420	Sustainable Energy Supply	English	English
GEO3-2421	Material Flow Analysis for Resilient Societies	English	English
GEO3-2422	Bachelor's thesis GSS	English	English
GEO3-2423	Consultancy Project	English	English
GEO3-2430	Energy Markets	English	English
GEO3-2432	Consultancy Project Aruba GSS	English	English
GEO3-2440	Ecohydrology	English	English
GEO3-2441	Transforming Food Systems	English	English
GEO3-2442	Energy Analysis	English	English