



M Sustainability Science, Policy and Society  
Maastricht University

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## Summary

### Standard 1. Intended learning outcomes

The panel concludes that the programme has a well-elaborated profile, providing students with an interdisciplinary and transdisciplinary perspective on sustainability challenges and has a clear focus on students becoming bridge builders. The panel appreciates this approach and recognizes the added value of this for the professional field. Integral systemic thinking is characteristic of the programme, including the natural science perspective as one of the perspectives. According to the panel, the programme contains sufficient content from natural science perspective to enable students to become familiar with the topics and terminology from the field of natural science, so that they are capable of cooperating with natural scientists in multidisciplinary teams. To ensure that sustainability as a global phenomenon is addressed adequately in the programme, the panel encourages the programme management and teaching staff to examine the course material to determine whether sufficient attention is paid to this, including the non-Western perspective and attention to minorities. The panel considers the ILOs to be appropriately formulated. They are aligned with the academic and professional field as well as with the academic level as described by the NLQF descriptors for master's level. The programme is also well-aligned to contemporary academic and societal debates, due to its connections with the professional and societal field.

### Standard 2. Teaching-learning environment

The panel concludes that the curriculum is coherent. The curriculum covers all ILOs and provides a clear build-up of knowledge. The panel is positive about the choice of the programme with the two specializations, and notes an appropriate fit of the specializations within the faculty and its research areas. The panel is very positive about the friendly learning environment, and the responsiveness of the programme in adapting education to the students' needs. The panel appreciates the programme's diverse and well-balanced teaching methods, and the focus on Problem-Based Learning in small tutorial groups and the active knowledge and skills development of students. In addition, the panel is positive about the contribution of the international and multidisciplinary student population as part of the collaborative learning process. Students receive adequate supervision and guidance during the programme, and the faculty provides extra guidance and support for students who need it. The feasibility of the programme is in order. However, the panel noticed a lack of breathing space for students during the programme due to the shortening of the academic year, resulting in students working on the thesis trajectory and Integrated Sustainability Project concurrently. The panel advises the programme management and teaching staff to evaluate the shortening of the academic year and how this relates to the feasibility of the programme. Teaching staff is of good quality and mutually supportive and collaborative. According to the panel, the choice for an English name and language of instruction is well substantiated and consistent with the international nature of the environmental sciences.

### Standard 3. Student assessment

The panel concludes that a clear and transparent assessment policy and practice is in place, that supports students by making assessments clear, transparent and accessible and assists the teaching staff in making well-founded assessment decisions. The panel examined the assessment procedure of final products and concluded that it is well designed. The panel appreciates the use of rubrics to assess the ISP, the alignment coaches ensure by discussing reports, and the possibility of individual grade adjustment. The thesis assessment forms use insightful rubrics and include written feedback that substantiate the grades. The panel found that this feedback should be more extensive, especially in the case of borderline theses to explain why a particular final grade was given. The panel advises the programme management to explore which measures can be used to make better use of the thesis assessment form in consultation and discussion with

the teaching staff, especially regarding the written substantiation of the grades or sub-grades. It also recommends no longer allowing unsatisfactory subgrades in the SSPS thesis evaluation form, and reevaluating the number and weight of the subgrades to make the grading process more streamlined. Overall, the panel found thesis assessment to be up to standard, and believes that the abovementioned recommendations will help to further improve the transparency of the grading process. The programme has a solidly functioning Board of Examiners that is in control, and adequately safeguards the quality of assessment in the programme.

#### Standard 4. Achieved learning outcomes

Based on the examination of a selection of 15 theses and 10 Integrated Sustainability Projects from the programme, the panel concludes that the level of the theses is appropriate for an academic master's programme. The theses and Integrated Sustainability Projects demonstrate the achievement of the ILOs. The documentation and interviews show that alumni are generally satisfied with the programme and are well prepared to perform successfully in the professional field.

#### Score table

The panel assesses the programme as follows:

##### *Master's programme Sustainability Science, Policy and Society*

Standard 1: Intended learning outcomes	meets the standard
Standard 2: Teaching-learning environment	meets the standard
Standard 3: Student assessment	meets the standard
Standard 4: Achieved learning outcomes	meets the standard
General conclusion	positive

Em. prof. dr. J.T.A. (Hans) Bressers, panel chair

Drs. J. (Jessica) van Rossum,  
panel secretary

Date: 5 August 2024

# Introduction

## Procedure

### Assessment

On 23 May 2024, the master's programme Sustainability Science, Policy and Society of Maastricht University was assessed by an independent peer review panel as part of the cluster assessment Environmental Sciences. The assessment cluster consisted of 17 programmes, offered by the institutions Open Universiteit, University of Amsterdam, Wageningen University, Radboud University, Vrije Universiteit Amsterdam, University of Groningen, Maastricht University, Leiden University, Utrecht University and the Amsterdam Institute for Advanced Metropolitan Solutions (of Delft University of Technology and Wageningen University). The assessment followed the procedure and standards of the NVAO Assessment Framework for the Higher Education Accreditation System of the Netherlands (September 2018).

Quality assurance agency Academion coordinated the assessment upon request of the cluster Environmental Sciences. Peter Hildering and Jessica van Rossum acted as coordinator and panel secretaries. Annemarie Venemans, Esther Poort, Anne-Lise Kamphuis, Linda te Marvelde and Carlijn Braam also acted as secretaries in the cluster assessment. They have been certified and registered by the NVAO. Jessica van Rossum acted as panel secretary in the assessment of the master's programme Sustainability Science, Policy and Society of Maastricht University.

### Preparation

Academion composed the peer review panel in cooperation with the institutions and taking into account the expertise and independence of the members as well as consistency within the cluster. On 15 December 2023, the NVAO approved the composition of the panel. The coordinator instructed the panel chair on his role in the site visit according to the Panel chair profile (NVAO 2016).

The programme composed a site visit schedule in consultation with the coordinator (see appendix 3). The programme selected representative partners for the various interviews. It also determined that the development dialogue would be made part of the site visit. A separate development report was made based on this dialogue.

The programme provided the coordinator with a list of graduates of the academic years 2021-2022 and 2022-2023. In consultation with the coordinator, the panel chair selected 15 theses and 10 Integrated Sustainability Projects of 49 students of the master's programme Sustainability Science, Policy and Society. They took the diversity of final grades and examiners into account. Prior to the site visit, the programme provided the panel with the theses and the accompanying assessment forms. It also provided the panel with the self-evaluation report and additional materials (see appendix 4).

The panel members studied the information and sent their findings to the secretary. The secretary collected the panel's questions and remarks in a document and shared this with the panel members. In a preliminary meeting, the panel discussed the initial findings on the self-evaluation report and the theses, as well as the division of tasks during the site visit. The panel was also informed on the assessment framework, the working method and the planning of the site visits and reports.

### Site visit

During the site visit, the panel interviewed various programme representatives (see appendix 3). The panel also offered students and staff members an opportunity for confidential discussion during a consultation hour. No consultation was requested. The panel used the final part of the site visit to discuss its findings in an internal meeting. Afterwards, the panel chair publicly presented the preliminary findings.

### Report

The secretary wrote a draft report based on the panel's findings and submitted it to an Academion colleague for peer assessment. Subsequently, the secretary sent the report to the panel for feedback. After processing this feedback, the secretary sent the draft report to the programme in order to have it checked for factual irregularities. The secretary discussed the ensuing comments with the panel chair and changes were implemented accordingly. The panel then finalised the report, and the coordinator sent it to the Maastricht University School of Business and Economics.

### Panel

The following panel members were involved in the cluster assessment Environmental Sciences:

- Em. prof. dr. J.T.A. (Hans) Bressers, emeritus professor in Policy Studies and Environmental Policy at the University of Twente (chair);
- Prof. dr. A.C. (Arthur) Petersen, professor in Science, Technology and Public Policy at University College London (United Kingdom);
- Dr. A.R. (Ana) Vasques, lecturer at the Erasmus University College of Erasmus University Rotterdam;
- Dr. S.E. (Sarah) Cornell, associate professor at the Stockholm Resilience Centre of Stockholm University (Sweden);
- Em. prof. dr. M.C. E. (Rietje) van Dam-Mieras, emeritus professor in Sustainable Development and Innovation of Education at Leiden University, and member of the Top Consortium for Knowledge and Innovation (TKI) Biobased Circular (focus Human Capacity Agenda);
- Dr. ir. T. (Thijs) Bosker, associate professor in Environmental Sciences at Leiden University;
- Prof. dr. ir. S.E. (Siegfried) Vlaeminck, professor in Microbial Cleantech and Environmental Systems Analyses at the Universiteit of Antwerpen (Belgium);
- Prof. dr. M.P.J. (Maarten) Loopmans, professor in Human Geography and Political Ecology at the KU Leuven (Belgium);
- Dr. ir. S.G. (Gerd) Weitkamp, associate professor in Health Geography, Mobility, and Geospatial Technologies at the University of Groningen;
- Prof. dr. P. (Paquita) Perez Salgado, professor in Natural Sciences at the Open Universiteit Nederland;
- Prof. dr. E. (Esther) Turnhout, professor in Science, Technology and Society at the University of Twente;
- Em. prof. dr. ir. J.T. (Hans) Mommaas, emeritus professor in Regional Sustainability Governance at Tilburg University, and chair of the Ecological Authority;
- Dr. P. (Patricia) de Cocq, director Living Environment and Nature at HAS Green Academy;
- Prof. dr. ir. Z. (Zofia) Lukszo, professor in Smart Energy Systems at the Delft University of Technology;
- M. M. (Marisa) Beunk MSc., alumna (March 2023) of the master's programme Environmental Sciences (Policy Track) of Wageningen University (student member);
- F.O. (Fenna) Oostrum MSc., alumna (September 2023) of the master's programme Environment and Society Studies of Radboud University (student member).

The panel assessing the master's programme Sustainability Science, Policy and Society at Maastricht University consisted of the following members:

- Em. prof. dr. J.T.A. (Hans) Bressers, emeritus professor in Policy Studies and Environmental Policy at the University of Twente (chair);
- Prof. dr. A.C. (Arthur) Petersen, professor in Science, Technology and Public Policy at University College London (United Kingdom);
- Prof. dr. E. (Esther) Turnhout, professor in Science, Technology and Society at the University of Twente;
- F.O. (Fenna) Oostrum MSc., alumna (September 2023) of the master's programme Environment and Society Studies of Radboud University (student member).

## Information on the programme

Name of the institution:	Maastricht University
Status of the institution:	Publicly funded institution
Result institutional quality assurance assessment:	Positive
Programme name:	Sustainability Science, Policy and Society
CROHO number:	69315
Level:	Master
Orientation:	Academic
Number of credits:	60 EC
Specializations or tracks:	Policy for Sustainability Business for Sustainability (specializations commenced in academic year 2023-2024)
Location:	Maastricht
Mode(s) of study:	Fulltime
Language of instruction:	English
Submission date NVAO:	1 November 2024

## Description of the assessment

### Organization

The master's programme Sustainability Science, Policy and Society (SSPS) is offered by Maastricht University (UM), School of Business and Economics (SBE), Maastricht Sustainability Institute (MSI). The SBE has a broad scope with areas of expertise in economics, international business, management, public policy, governance and sustainability. SBE is a Triple Crown accredited school of business and economics, i.e. AACSB, EQUIS, AMBA. Education at SBE is provided by the Education Institute (EdIn). EdIn is responsible for the implementation and delivery of bachelor and master education in line with SBE's mission and strategy.

Until 2019, SSPS was located in the Faculty of Humanities and Sciences (now the Faculty of Sciences and Engineering). In 2019, MSI, including SSPS, transferred to SBE. This led to some changes in the Education and Examination Regulations and the intended learning outcomes, as well as a more rigorous quality assurance cycle and access to the educational resources of SBE's Learning Academy. In terms of student experience, opportunities have been added such as the Thesis Internship Project, an extracurricular internship and a master's exchange.

### Recommendations by the previous accreditation panel

The previous accreditation of the master's programme Sustainability Science, Policy and Society of Maastricht University took place in 2019. In the self-evaluation report of the current accreditation, the programme described the actions taken in response to the recommendations. Also, several improvements were discussed in the interviews during the site visit. The panel concludes that the programme has taken the recommendations seriously. The panel is generally satisfied with the improvement measures taken. Among others, this includes making more explicitly in the intended learning outcomes the education of students to become bridge-builders, and the programme management's efforts to continue promoting the quality of exams and assessments. For some recommendations, it became clear that the programme was still in the process of addressing them. These issues are discussed later in this report.

### Standard 1. Intended learning outcomes

The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

### Findings

#### *Profile*

The SSPS programme aims to deliver graduates who can identify, analyze and respond to sustainability challenges. They do this by being aware of the economic, environmental and social dimensions of sustainability and of the complex interactions between them, and by working at the interface between science and society. Graduates should be able to cross boundaries and build bridges between different disciplines, domains, sectors and actors. To become such bridge-builders, students need to acquire knowledge and skills about the complexities surrounding sustainability issues. Also, they need to be able to understand and evaluate knowledge from the social, environmental and economic dimensions of sustainability. Students can choose to specialize in 'Policy for Sustainability' or 'Business for Sustainability'. These two specializations help students gain more insights into the role of public policy or business in sustainability transformations. SSPS prepares students for a professional career in sustainability-related jobs, as well as for an academic career.

The panel studied the profile of the programme and concludes that it is well-elaborated with both an academic orientation and a clear professional focus, training students to become bridge-builders. The professional focus is evident in the way the programme links knowledge to application, for instance in case studies or application of particular models or theories to real world sustainability challenges. The bridge-building element is expressed in the broad inter- and transdisciplinary perspective and two recurring themes of the programme: boundary work and integrating different perspectives on complex sustainability challenges. In line with this, students learn to deal with different perspectives across various disciplines and societal domains, to communicate scientific knowledge clearly and unambiguously to various audiences, and acknowledging other perspectives while developing their own arguments.

A question discussed by the panel and programme representatives was whether the programme pays sufficient attention to sustainability as a global phenomenon. The panel noted that some attention is given to this in the programme, but isn't sure if it is done extensively. In the panel's view, the inclusion of non-Western perspectives is an important part of sustainability, since sustainability challenges are global and certainly also non-Western. Therefore, the panel encourages the programme management and teaching staff to examine the reading list and cases used within courses to determine whether they pay sufficient attention to sustainability as a global phenomenon, including non-Western perspectives.

After studying the self-evaluation report, the panel wondered how the natural sciences perspective is embedded in the profile of the programme, given the recommendation from the previous accreditation panel to remain attentive to the natural science perspective of the programme domain. The panel learned from the interviews with programme management and students that this is sufficiently embedded in the curriculum. Integral systemic thinking is characteristic of the programme, including the natural science perspective as one of the perspectives. In the interview with the panel, the programme management emphasized that in addition to having a social sciences perspective within the programme, students also need to learn about the natural sciences perspective in order to be able to work together and communicate with natural scientists in their future job. To this end, the programme educates students to analyze and assess complex sustainability challenges in an integrated manner, including the use of sustainability assessments. Students mentioned that in the first part of the curriculum, the programme focuses not only on the social perspective of sustainability, but also on the natural and economic science perspective. In this way, students learn concepts to communicate with different disciplines and fulfil a bridge-building role.

#### *Intended learning outcomes*

The programme has formulated fourteen intended learning outcomes (ILOs) concerning knowledge and understanding, academic attitude, global citizenship, and interpersonal competences. The learning outcomes have been formulated alongside the five Dublin descriptors for academic master's programmes and describe the general knowledge, skills and attitudes required of graduates. The panel considers the ILOs to be well formulated and appropriate for the academic master's level. They cover all relevant aspects of the master's programme. In addition, they are aligned with the domain-specific framework for academic programmes in Environment and Sustainability, in the sense that graduates should have the ability to contribute to transformations towards sustainable and just societies and should be able to function in a multi-faceted scientific and social context. SSPS graduates specifically learn to connect knowledge to practice. As such, the programme provides a sound theoretical basis and practical skills for identifying, analyzing and contributing to problem-solving for sustainability.

Furthermore, the panel appreciates how the programme continually reflects on its objectives and content from the perspective of the professional field. The programme is well-connected to the professional field and

society through interactions in the context of the Integrated Sustainability Project, the thesis trajectory, real-life case studies and guest lectures. Furthermore, the programme recently installed an Advisory Board, consisting of representatives from the work field, that advises the programme on a regular basis concerning the alignment with the professional field.

### Considerations

The panel concludes that the programme has a well-elaborated profile, providing students with an inter- and transdisciplinary perspective on sustainability challenges and has a clear focus on students becoming bridge builders. The panel appreciates this approach and recognizes the added value of this for the professional field. Integral systemic thinking is characteristic of the programme, including the natural science perspective as one of the perspectives. According to the panel, the programme contains sufficient content from natural science perspective to enable students to become familiar with the topics and terminology from the field of natural science, so that they are capable of cooperating with natural scientists in multidisciplinary teams. To ensure that sustainability as a global phenomenon is addressed adequately in the programme, the panel encourages the programme management and teaching staff to examine the course material to determine whether sufficient attention is paid to this, including the non-Western perspective and attention to minorities. The panel considers the ILOs to be appropriately formulated. They are aligned with the academic and professional field as well as with the academic level as described by the NLQF descriptors for master's level. The programme is also well-aligned to contemporary academic and societal debates, due to its connections with the professional and societal field.

### Conclusion

The panel concludes that the programme meets standard 1.

## Standard 2. Teaching-learning environment

The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

### Findings

#### *Curriculum*

The programme consists of 60 EC and is offered as a full-time, one-year programme. In the first semester, the curriculum consists of Problem-Based Learning & Academic Skills (1 EC) and two core courses on understanding sustainability (10 EC). The courses on understanding sustainability are aimed at creating a shared understanding of important topics within the sustainable development debate and the role of science within these discussions, as students come from a great variety of bachelor's backgrounds. Throughout the programme, students work on assessing sustainability (14 EC). The courses cover the methodology of sustainability assessment and preparing a project plan for ISP with a client from the policy, business or civil society working field on a real-world project (5 EC) and skills courses on basic modelling, scenario analysis, participatory methods and multicriteria analysis (4 EC). In the Integrated Sustainability Project (5 EC), students implement the project plan with their client. The courses cover the methodology of sustainability assessment and skills courses on basic modelling, scenario analysis, participatory methods and multicriteria analysis. In the Integrated Sustainability Project, students work with a client from the policy, business or civil society working field on a real-world project. They work together on this in interdisciplinary groups. In the second period, students start their thesis trajectory which continues through the period. This consists of a course on Research Approaches and Methods and a thesis research proposal (5 EC). In addition, students write a thesis in the second semester (15 EC). During the thesis writing process,

students receive thesis support in tutorial groups as well as individual thesis supervision. As part of the thesis trajectory, students can follow a thesis internship project that connects their thesis work to an external internship organization. The duration of the internship is three to six months and two or three days per week. Approximately ten percent of the students make use of this opportunity. Both the group-based Integrated Sustainability Project and the individual thesis are final products of the programme. The teaching methods consist of problem-based learning, project-centered learning tutorials, lectures, knowledge clips, group work, controversy mapping exercises and simulation games.

The programme includes two specializations: 'Policy for Sustainability' and 'Business for Sustainability'. The specialization-specific courses consist of three compulsory courses of 5 EC each (15 EC). In the 'Policy for Sustainability' specialization students learn about the nation state, international negotiations, the role of NGOs, innovation and its relationship to policy, and governance of sustainability. They deepen their knowledge of sustainable development from the perspective of public policy-making. The 'Business for Sustainability' specialization discusses the role of business in sustainability, ethical consumption and de-growth. In addition, students learn about the relationship between business innovation and sustainability, they learn to measure and report on the impacts of businesses on sustainability, and they learn to explore what it means for these activities to remain within planetary boundaries. Students choose their specialization in the first period. Students attend a presentation with a Q&A on both specializations after which they make their choice.

The panel considers the curriculum to be coherent. The curriculum covers all ILOs, as demonstrated in curriculum map included in the documentation. This map shows how the course objectives, teaching and assessment methods relate to the ILOs. At the beginning of each course, students are given a chart showing where the course fits in the curriculum and what they can expect from the course. The panel noted a clear progression of knowledge in the curriculum. Throughout the year, the application of academic knowledge becomes more prominent, leading to two final products: the thesis (individual work) and the Integrated Sustainability Project (group work). The panel is positive about the teaching methods and the choice the programme offers through the two specializations. The panel notes an appropriate fit of the specializations within the faculty and the faculty's research areas. The panel's only comment is that the current courses are missing attention to transition thinking, which the panel believes is an essential element in addressing sustainability challenges. The programme management clarified that this is addressed at the start of the curriculum in the core courses. The panel appreciates this, and stimulates the programme to think of ways to include this throughout the curriculum to make it a more overarching part of the programme with the purpose of addressing sustainability challenges.

#### *Learning environment*

The teaching method of the SSPS programme is Problem-Based Learning (PBL). PBL has four learning principles:

- contextual learning, using cases which are relevant for the future profession;
- constructive learning, active knowledge acquirement through student engagement;
- collaborative learning, learning from and with others;
- self-directed learning, the student directs the learning experience.

Student-centered learning in tutorial groups is the backbone of the teaching and learning environment, along with lectures by teaching staff and guest speakers. On average, students have 10–12 contact hours per week, with an emphasis on learning in small tutorial groups of no more than 14 students. The PBL-based tutorial sessions aim to challenge students not only to proactively study and master their subject matter, but also to actively develop skills such as self-reliance, assertiveness and problem-solving capacities. More specifically, in small tutorial groups students learn to discuss about sustainable development not only based

on different sources of knowledge from students with different disciplinary backgrounds, but also from different perspectives and worldviews on the issue being studied with students from different parts of the world. The international and multidisciplinary background of the student population contributes to the collaborative learning aspect of PBL. The panel appreciates the focus on learning in small groups of students and the active knowledge and skills development of students, which the panel believes is important to encourage student interaction and engagement, as well as their academic development. In addition, the panel is positive about the contribution of the international and multidisciplinary student population as part of the collaborative learning process, that well-suits the programme in its broad inter- and transdisciplinary perspective.

From the interviews with students, the panel learned that the programme creates a friendly learning environment for students. The programme is very responsive to the needs of students. For example, students gave feedback that a course was too theoretical. In response, the programme adjusted the course the following year to be less theoretical and more relevant to students. In addition, the programme provides students with a great deal of information about the intent and design of the programme, which is appreciated by students. The panel notes that the development of learning pathways can further support this. Finally, the friendly and safe learning environment is reflected in the attention paid to managing diversity in the classroom. The panel values this as an important aspect of preventing exclusion and bullying among students.

#### *Guidance and feasibility*

SSPS aims to admit students who are able to work and think at the level of an academic bachelor's degree, with the use of admission requirements but no prerequisites. This ensures a student population with a variety of perspectives and backgrounds entering the programme. The admission requirements are assessed by the Board of Admissions of SSPS. Prospective students submit a motivation letter, which encourages that students who are motivated to become sustainability professionals apply for the programme. The panel appreciates that this open admission procedure for all students with a bachelor's degree contributes to the diversity of perspectives and backgrounds of students entering the programme.

If students have questions or problems, they can contact an MSI-based student support officer. The student support officer is responsible for the applicant's journey through the admissions process, and is the first point of contact for enrolled students with questions. She also directs students to the right place for help within SBE and UM. She coordinates the scheduling of tutors planning and sends a weekly update to students about the programme. After the exams of the second period, students who have not passed two or more courses are advised to contact the student support officer to determine what help they need. In addition to that, students mentioned in the interview and the student chapter that they experience a warm, safe and open environment, where it is easy to communicate with tutors and work with fellow students. The panel recognizes this from the interviews, and concludes that student guidance is well-provided for in the programme.

After studying the curriculum, the panel concludes that the programme is feasible within one year. The success rates of the previous cohorts confirm this, showing that 69% of students graduate in one year; raising to 83% in one year and three months. The panel values these relatively high success rates. One issue that the panel noted from the interviews, is the lack of breathing space for students throughout the programme. In 2022-2023 the programme revised the thesis process and moved the thesis deadline forward as a result of the shortened academic year within SBE. In addition, the thesis trajectory and the Integrated Sustainability Project run concurrently, so students work at two final projects at the same time. The panel notes that this combination can be stressful for students, and learned from the interview with teaching staff

that they share this concern. Therefore, the panel recommends the programme management and teaching staff to evaluate the shortening of the academic year. Even though students eventually manage the combination of both projects, the panel considers the associated stress experienced by students to be undesirable. Furthermore, the panel suggests that the programme management together with MSI teaching staff considers redesigning the curriculum in order to avoid placing a heavy workload on students by requiring them to work on two final projects at the same time.

#### *Teaching staff*

The programme is taught by a team of 33 teaching staff members, who serve as course coordinator, tutor, and/or master thesis supervisor. All the lecturers are active researchers in their teaching field. New SSPS teaching staff follows a PBL training course when they start teaching at UM. Course coordinators all have a UTQ or an equivalent teaching qualification from another country. PhD students and new teaching staff are offered the opportunity to follow the UTQ trajectory within SBE. It is the policy of UM and therefore of SSPS, that staff with a key role in teaching obtains a UTQ certificate. New staff at MSI receive training in thesis supervision training provided by SBE.

Based on the documents and interviews during the site visit, the panel is positive about the quality of the staff and was pleased to meet mutually supportive teaching staff. The panel learned from the interviews that teaching staff members help each other, there is a good atmosphere, and junior staff feels well mentored by senior staff. For SSPS, a 60% increase in student numbers in 2019-2022 initially led to an increase in staff workload. The recruitment of additional junior staff helped to alleviate the burden. The panel noted from the interview with teaching staff that this junior staff is of good quality and is well supported and guided by senior staff. The panel commends the teaching staff for creating a collaborative work environment and for their responsiveness in tailoring education to students' needs. Teaching staff members proactively encourage students to provide feedback throughout the course, and use it as an opportunity to further improve the education. They also clearly communicate to students what is done with their feedback and what changes are made.

#### *Internationalization*

The programme is English-taught to reflect the international nature of the environmental sciences. The panel fully agrees with the choice and underlying rationale for an English name and language of instruction. The panel considers that the programme has a clear international focus. This is reflected, amongst other things, in the international teaching staff and student population, and the international literature and cases used throughout the programme. According to the panel, this aligns well with the international nature of the professional and academic field for which the programme educates its students. English language proficiency (level C1) is one of the academic staff recruitment requirements.

#### *Considerations*

The panel concludes that the curriculum is coherent. The curriculum covers all ILOs and provides a clear build-up of knowledge. The panel is positive about the choice of the programme with the two specializations, and notes an appropriate fit of the specializations within the faculty and its research areas. The panel is very positive about the friendly learning environment, and the responsiveness of the programme in adapting education to the students' needs. The panel appreciates the programme's diverse and well-balanced teaching methods, and the focus on Problem-Based Learning in small tutorial groups and the active knowledge and skills development of students. In addition, the panel is positive about the contribution of the international and multidisciplinary student population as part of the collaborative learning process. Students receive adequate supervision and guidance during the programme, and the faculty provides extra guidance and support for students who need it. The feasibility of the programme is in

order. However, the panel noticed a lack of breathing space for students during the programme due to the shortening of the academic year, resulting in students working on the thesis trajectory and Integrated Sustainability Project concurrently. The panel advises the programme management and teaching staff to evaluate the shortening of the academic year and how this relates to the feasibility of the programme. Teaching staff is of good quality and mutually supportive and collaborative. According to the panel, the choice for an English name and language of instruction is well substantiated and consistent with the international nature of the environmental sciences.

### Conclusion

The panel concludes that the programme meets standard 2.

### Standard 3. Student assessment

The programme has an adequate system of student assessment in place.

### Findings

#### *Assessment system*

Assessment in the programme is aligned with the UM Vision on Assessment and the SBE Assessment Policy. The assessment programme describes the use of assessment methods within the SSPS programme, and how assessment methods are aligned. The assessment plan is the elaboration of the assessment programme at the course level. This includes ensuring appropriate assessment methods, determining the weighting system for the final grade, and setting up an assessment matrix, including assessment criteria for assignments that are part of the final grade. Students are informed at the beginning of each course through the Assessment Plan section of the course syllabus about the components of assessment, their weight in the final grade, assessment forms, and the topics it covers. The four-eye principle is used for creating assessments and answer keys. Grading alignment sessions are organized by the programme to ensure different assessors utilize the same way of grading.

SSPS uses both summative and formative assessment. The programme uses a variety of assessment methods, including individual open book or take-home exams, as well as individual and group assignments. With regard to group work, the programme provides the ability to adjust the grade of individual students to prevent freeriding or recognize above average individual efforts. Students may indicate to the course coordinator the need for individual grade adjustments for fellow members. If the coordinator deems this justified, an individual grade correction will be made. In addition, structured meetings are held with the group of students to discuss about and reflect on the group process. This gives students the opportunity to identify any potential problems with the group project.

The programme works on policies to address the use of AI and the integration of AI in education. To reduce the risk of AI use in exams, SBE has issued an examiner guideline to ensure the quality of education and assessment. The programme recognizes that the use of AI requires ongoing attention, in part because of the rapid developments in this area.

According to the panel, appropriate procedures are in place to ensure and improve the quality of assessment. With this, the programme management has acted adequately upon the panel's recommendation of the previous accreditation. Students are adequately informed about examinations and assessment criteria. The panel also appreciates that the programme uses a variety of assessment methods with a mix of both summative and formative assessment, and individual and group assessment. The panel is

positive about the measures taken to ensure the quality of group assessment, including the ability to adjust grades of individual students and the meetings provided for students to discuss the group process. The panel is positive about the programme's proactive measures regarding the use of AI, particularly the way in which the programme encourages students to properly justify and be transparent about their use of AI.

#### *Assessment final products*

SSPS has two final products: a group report resulting from the Integrated Sustainability Project (ISP) and an individual thesis. The ISP report is graded on the basis of a final presentation and a written report, which are assessed using rubrics. Students present their findings to their client and an audience of other students and clients. Comments received during the presentation can then be incorporated into their final report. The team of project coaches meets with the course coordinator to discuss the reports to ensure alignment between coaches. Students are informed about the possibility of individual grade adjustment. For the thesis, each student is assigned a daily supervisor and a second grader. There is always one person from MSI in the team and at least one assessor holds a PhD. The thesis is evaluated using a grading form, including a set of criteria that is used by all master's programmes at SBE. For SSPS, sustainability-specific criteria have been added. Assessment of a thesis internship follows the same grading criteria, using a grading form and rubric. In addition, the students present their findings to the internship organization. The supervisor and a second examiner assess the report independently from each other. If both assessors agree that the report is a pass, the students' defense may proceed. If the two assessors disagree, or if the difference in their grading is above 1.5, a third assessor is appointed to break the tie. The final grade is the median of the three weighted average grades, rounded in a similar manner. After the defense, the final grade is determined. The student receives the completed grading form with feedback. Students are informed about the assessment form and the rubrics in advance.

The panel found the assessment procedure of final products to be well thought out. The panel appreciates that the ISP is assessed by using rubrics, that the coaches discuss the reports to ensure alignment, and that individual grade adjustment is possibly if necessary. With regard to the theses, the panel notes that they are always assessed by two assessors by means of a detailed form. According to the panel, more extensive comments could be included in the thesis assessment and the Integrated Sustainability Project. In line with the recommendations of the previous panel, written feedback is provided on the assessment forms, but the panel believes that it would be helpful to strive for more extensive feedback. Particularly in the case of borderline theses, of which the panel encountered two examples in its thesis review (see standard 4), more detailed feedback would have been helpful to explain why these theses passed. The programme management clarified in the interview that substantiation of theses grades is pursued by using a faculty-wide shared rubric, limiting the ways that they can change the assessment form to encourage the use of additional written feedback. The panel understands this, and advises the programme management to explore which measures can be used to make better use of the assessment form in consultation and discussion with the teaching staff.

In addition, the panel noted that the thesis assessment procedure of the SSPS programme allows for subcriteria to be graded as unsatisfactory in the SSPS thesis evaluation form (not the form used by other SBE MSc programmes), as long as the final grade is sufficient. The panel recommends that the programme changes the thesis assessment procedure to no longer allow for insufficient subgrades in the SSPS thesis evaluation form, and decide on what the essential criteria are that all theses should meet. For instance, grammar and spelling are now separately weighed within the rubric, which the panel thinks do not necessarily need to be graded parts of the thesis assessment.

### *Board of Examiners*

The Board of Examiners (BoE) proactively safeguards the quality of assessment in a number of ways, such as the appointment of examiners and the prevention and detection of potential fraud among students. It acted upon the recommendations of the previous accreditation, by making calibration sessions standard procedure in courses to synchronise assessments and grades among examiners, and by having an Assessment Committee (AC) in place to oversee and monitor the assessment quality. The AC provides input about the quality of assessment to the BoE, which helps the BoE to perform their task. The AC structurally monitors the assessment quality of courses and final products by examining these by sampling. In the interview with the panel, the BoE mentioned that they rarely receive any complaints from students, implying that it is clear for students what it is expected of them in the programme. The panel is pleased to note that the BoE clearly contributes to the quality of assessment in the programme. Based on the documentation and the interviews during the site visit, the panel concludes that the BoE is in control and adequately safeguards the quality of assessment in the programme.

### Considerations

The panel concludes that a clear and transparent assessment policy and practice is in place, that supports students by making assessments clear, transparent and accessible and assists the teaching staff in making well-founded assessment decisions. The panel examined the assessment procedure of final products and concluded that it is well designed. The panel appreciates the use of rubrics to assess the ISP, the alignment coaches ensure by discussing reports, and the possibility of individual grade adjustment. The thesis assessment forms use insightful rubrics and include written feedback that substantiate the grades. The panel found that this feedback should be more extensive, especially in the case of borderline theses to explain why a particular final grade was given. The panel advises the programme management to explore which measures can be used to make better use of the thesis assessment form in consultation and discussion with the teaching staff, especially regarding the written substantiation of the grades or sub-grades. It also recommends no longer allowing unsatisfactory subgrades in the SSPS thesis evaluation form (not the form used by other SBE MSc programmes), and reevaluating the number and weight of the subgrades to make the grading process more streamlined. Overall, the panel found thesis assessment to be up to standard, and believes that the abovementioned recommendations will help to further improve the transparency of the grading process. The programme has a solidly functioning Board of Examiners that is in control, and adequately safeguards the quality of assessment in the programme.

### Conclusion

The panel concludes that the programme meets standard 3.

### Standard 4. Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

### Findings

#### *Integrated sustainability projects and theses*

The Integrated Sustainability Project along with the thesis is considered the programme's final product in which students demonstrate that they achieved the programme's ILOs. In preparation for the site visit, the panel examined a selection of 15 theses and 10 Integrated Sustainability Projects. The selection was made to ensure an appropriate distribution across grades and specializations. In the opinion of the panel, the level of the examined theses and Integrated Sustainability Projects is appropriate for an academic master's programme, and demonstrate the achievement of the ILOs. The panel found two theses in the sample to be

borderline cases. Ultimately, the panel could agree with the assessment of the programme examiners to grade these theses as satisfactory, but would have welcomed more substantiation on the assessment form as to why the examiners believed this grade was the justified. This is further discussed under standard 3.

### *Alumni*

An analysis of SSPS alumni conducted in 2022 shows that all graduates are employed and a significant number of alumni work in sustainability-related positions in government, business, non-profit and academia. Approximately eighty percent of the alumni found professional positions related to the programme's field of study and approximately seventy percent found professional positions at master level. Based on the documentation and the interviews during the site visit, the panel concludes that alumni are generally satisfied with the programme and often obtain relevant positions after graduation.

### Considerations

Based on the examination of a selection of 15 theses and 10 Integrated Sustainability Projects from the programme, the panel concludes that the level of the theses is appropriate for an academic master's programme. The theses and Integrated Sustainability Projects demonstrate the achievement of the ILOs. The documentation and interviews show that alumni are generally satisfied with the programme and are well prepared to perform successfully in the professional field.

### Conclusion

The panel concludes that the programme meets standard 4.

### General conclusion

The panel's assessment of the master's programme Sustainability Science, Policy and Society is positive.

### Development points

1. Evaluate the shortening of the academic year in relation to the workload for students.
2. Explore which measures can be used to make better use of the thesis assessment form in consultation and discussion with the teaching staff, especially regarding the written substantiation of the grades or sub-grades.
3. No longer allow unsatisfactory subgrades in in the SSPS thesis evaluation form, and reevaluate the number and weight of the subgrades to increase the transparency of the grading process.

## Appendix 1. Intended learning outcomes

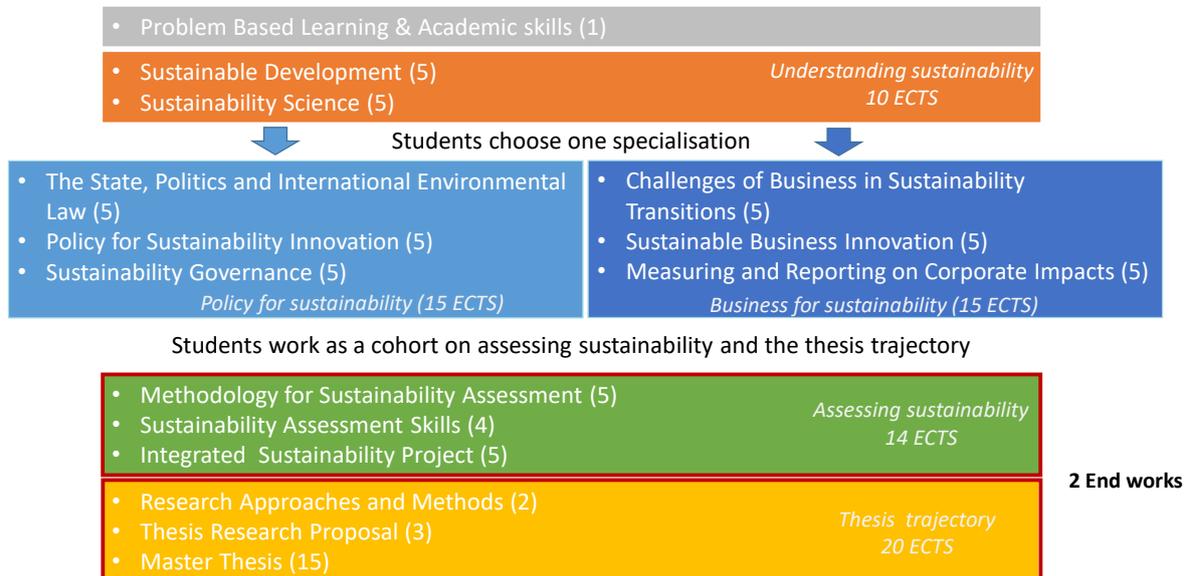
<i>Dublin Descriptors</i>	<i>SBE Master Learning Goals</i>	<i>MSc SSPS Programme Objectives</i>	
D1 Knowledge and understanding  D2 Applying knowledge and understanding	1. Knowledge and Insight  Graduates are able to develop insights based on academic knowledge in a self-directed manner	Programme Objective 1.1	To acquire and apply knowledge of sustainable development, especially its complexity, transdisciplinary and normative nature, and its integrative and transformative ambition
		Programme Objective 1.2	To acquire and apply knowledge of sustainability science as a field that links knowledge to action
		Programme Objective 1.3	To acquire and apply knowledge about working and thinking across 'boundaries'
		Programme Objective 1.4	To acquire and apply knowledge of methodology for sustainability assessment
		Programme Objective 1.5	To acquire and apply knowledge of methodology for scientific research on complex sustainable development challenges
D2 Applying knowledge and understanding  D3 Making judgements  D5 Lifelong learning skills	2. Academic Attitude  Graduates are able to demonstrate an academic attitude.	Programme Objective 2.1	To apply an integrative approach and critical thinking to handle complexity, normativity and the transformative nature of sustainable development
		Programme Objective 2.2	To apply methodology for sustainability assessment on real-world sustainable development issues
		Programme Objective 2.3	To adopt a scientific and problem-solving attitude to sustainable development issues and to choose appropriate research approaches and apply research methods for sustainability science
D3 Making judgements	3. Global Citizenship  Graduates are able to actively engage in the global community in a globally responsible manner.	Programme Objective 3.1	To critically reflect upon one's own work and others' (group) work, and to accordingly adapt own work
		Programme Objective 3.2	To be able to reflect on societal and ethical implications of sustainable development problems and solutions while knowing that information is often incomplete
		Programme Objective 3.3	To work across 'boundaries' and deal with different perspectives across different disciplines and societal domains
D4 Communication	4. Interpersonal Competences	Programme Objective 4.1	To report and translate scientific knowledge clearly and unambiguously to various audiences (e.g. students, staff, stakeholders)

<i>Dublin Descriptors</i>	<i>SBE Master Learning Goals</i>	<i>MSc SSPS Programme Objectives</i>	
	Graduates are able to demonstrate excellent interpersonal competences in an international professional setting.	Programme Objective 4.2	To develop clear and scientific arguments leading to own viewpoint, while acknowledging other perspectives
		Programme Objective 4.3	To adopt an attitude of self-directed learning

## Appendix 2. Programme curriculum

Programme 2023-2024

### The curriculum



## Appendix 3. Programme of the site visit

### Thursday 23 May 2024

<i>Time</i>	<i>Panel meetings</i>
08:45 - 09:00	Welcome and arrival
09:00 - 09:30	Preparatory panel meeting
09:30 - 10:15	Interview programme management
10:15 - 11:00	Interview students & alumni
11:00 - 11:30	Break
11:30 - 12:15	Interview teaching staff
12:15 - 13:00	Interview Board of Examiners & Assessment Committee
13:00 - 14:30	Internal panel session, incl. lunch
14:30 - 15:15	Concluding session programme management
15:15 - 16:30	Internal panel session
16:30 - 16:45	Oral feedback
16:45 - 17:30	Development dialogue
17:30 - 19:00	Informal session

## Appendix 4. Materials

Prior to the site visit, the panel studied 15 theses of the master's programme Sustainability Science, Policy and Society. Information on the theses is available from Academion upon request. The panel also studied other materials, which included:

- MSc SSPS Self-Evaluation Report
- Programme SWOT Analysis
- Follow-up Previous Accreditation
- Domain Specific Framework
- MSc SSPS Admission Criterie/Requirements
- MSc SSPS Programme Website
- SSPS Student Chapter
- SBE Strategy
- List of ILOs
- Overview of Curriculum Map AY 23-24
- Extensive Curriculum Map
- Course Manuals of the following courses:
  - Sustainable Development
  - Sustainability Science, Policy and Society
  - PBL and Academic Skills
  - Challenges of Business in Sustainability Transitions
  - Sustainable Business Innovation
  - Measuring and Reporting on Corporate Impacts
  - The State, Politics and International Environmental Law
  - Policy for Sustainability Innovation
  - Sustainability Governance
  - Methodology for Sustainability Assessment
  - Integrated Sustainability Project
  - Basic Modelling
  - Scenario Analysis
  - Multi Criteria Analysis
  - Participatory Methods
  - Research Approaches and Methods
  - Thesis Proposal Seminar
  - Master Thesis
- Learning Pathways
- Composition of the Teaching Staff
- University Teacher Qualification (UTQ)
- Information on Problem-Based Learning (PBL)
- International Classroom
- Period evaluation meetings
- Students Pre-Education Disciplines
- Learning Academy
- EdLab
- DEXLab
- UM Vision on Assessment

- SBE Assessment Policy
- Education and Examination Regulations (EER)
- Recent Reports and Minutes of BoE, AC, EPC
- List of Examiners
- SBE Examiner Guidelines ChatGPT
- SBE Master's Thesis Code of Practice
- Master Thesis AI Guidelines
- SSPS Thesis Guidance Document
- Thesis Grading Rubric and Form
- List of Published Thesis/Journal Articles
- Integrated Sustainability Project (ISP) Grading Rubric and Form
- ISP Clients and Topics 2022/23
- Completion Rates
- Cum Laude Percentage