



NVAO • THE NETHERLANDS

# INITIAL ACCREDITATION

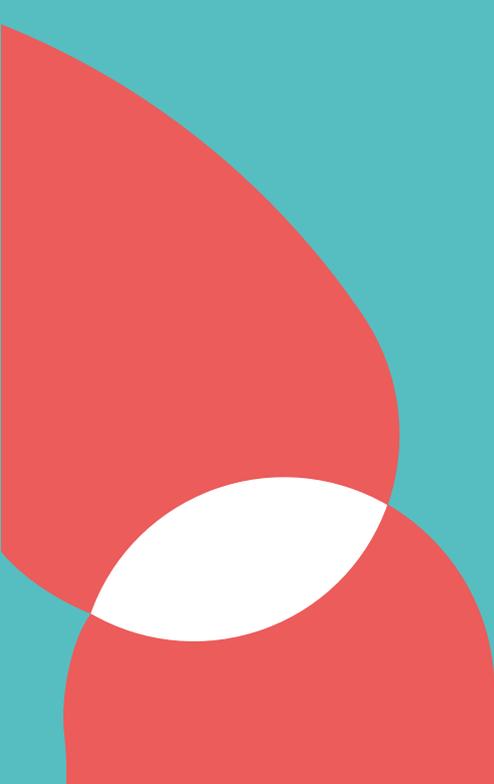
WO-BACHELOR

SUSTAINABLE BIOSCIENCE

Maastricht University

SUMMARY REPORT

15 MAY 2025



## 1 Peer review

The quality of a new programme is assessed by means of peer review. A panel of independent peers including a student reviews the plans during a site visit to the institution. A discussion amongst peer experts forms the basis for the panel's final judgement and the advisory report. The focus is on the curriculum, the teaching and learning environment, and student assessment.

The Accreditation Organisation of the Netherlands and Flanders (NVAO) takes a formal decision on the quality of the new programme based on the outcome of the peer review. This decision can be positive, conditionally positive or negative. Following a positive NVAO decision with or without conditions the institution can proceed to offer the new programme. Upon completion of the programme graduates are entitled to receive a legally accredited degree.

This summary report contains the main outcomes of the peer review. A full report with more details including the panel's findings and analysis is also available. NVAO bases an accreditation decision on the full report.

Both the full and summary reports of peer reviews are published on NVAO's website [www.nvao.net](http://www.nvao.net). There you can also find more information on NVAO and peer reviews of new programmes.

## 2 Panel

### Peer experts

1. Prof. dr. V. (Vera) van Noort (chair), Professor in Computational Systems Biology, Faculty of Bioscience Engineering, KU Leuven; Professor in Computational Biology, Institute for Biology Leiden (IBL), Leiden University;
2. Dr. S.I. (Inge) The (member), Associate Professor and Programme Director Bachelor Programme Biology, Utrecht University;
3. Ing. F.P.M. (Frank) van der Helm MSc (member), Associate lector living plant production systems, Inholland University of Applied Sciences;
4. V. (Vincent) van der Wolf BSc (student-member), Master student Population Health Management, Leiden University.

### Assisting staff

Dr. M.J.H. (Marianne) van der Weiden (secretary)  
Anne Klaas Schilder MA (NVAO policy advisor and process coordinator)

### Site visit

Venlo, 15 April 2025.

### 3 Outcome

The NVAO approved panel reached a positive conclusion regarding the quality of the bachelor programme in Sustainable Bioscience offered by Maastricht University. The English taught programme has a study load of 180 EC and is offered in Venlo. Students can choose one of three tracks ('concentrations'): Planetary Systems, Agricultural Systems or Food Systems.

The bachelor programme in Sustainable Bioscience is a three-year fulltime interdisciplinary programme, to be organized on the Brightlands Campus Greenport Venlo. Graduates will be able to contribute to solutions of sustainability problems, based on a solid basis of knowledge and skills in (plant) biology, earth science, food and nutrition science, consumer behaviour, data and technology. The intended learning outcomes include that they will be critical thinkers and able to work effectively with stakeholders. The intended learning outcomes reflect the aims of the programme and the internationally recognized bachelor level. Ties with the work field are strong. Companies have been involved in the development of the programme and will provide opportunities for project work. The panel advises keeping the work field engaged in a systematic manner, including non-governmental organisations.

The programme is built on an articulate vision on education and assessment. A system of constructive alignment ensures that there is a direct relationship between learning outcomes, teaching and learning activities and student assessment. After a foundation year, students design an individual study path and select courses that fit their interests and prepare them for the master's programme of their choice. An academic advisor will help them to make the right choices. The curriculum consists of courses, skills trainings and projects. For some projects, the scheduled three-weeks fulltime period may be unpractical and should perhaps be replaced by a parttime project over a longer period of time. The panel advises looking into this. Students will work in small groups on real-life problems. This system of Problem-Based Learning stimulates active learning and the development of social skills. Research-Based Learning helps students to systematically acquire research skills. At the end of the third year, they will demonstrate these skills in an individual thesis research project. The increasingly international and globalized labour market and the geographical location of the programme with a large influx from Belgium and Germany are valid reasons to offer the programme in English. The resulting international classroom teaches students to work in a multicultural setting and take into account different perspectives when working on a problem. The admission requirements and matching procedure will attract students with a good chance of successfully completing the programme. Teachers are part of leading research groups and are didactically well-qualified. Students can approach them easily with questions. Counselling and facilities are available for students with extra needs. Next year, student housing and restaurant facilities will be built on the campus. Public transport and social initiatives still need attention.

Assessment is seen as part of the learning process. Therefore, assessments are not only used to monitor the students' level of knowledge and skills, but also to give feedback and stimulate further learning. Teachers use an appropriate variety of assessment forms, such as written exams, presentations, lab journals and reports. When working in teams, assessment will include self-evaluation and peer evaluation. An assessment plan assures that assessments are in line with the learning objectives per course, the syllabi inform students what to expect and grading guidelines contribute to reliable outcomes. Some of these guidelines should be more specific. Teachers and the Board of Examiners are aware of the advantages and risks of Generative Artificial Intelligence. The panel advises keeping a close watch on this development and helping teachers to design AI-proof assessments. The Board of Examiners has given advice in the development phase of the programme and will monitor the quality of assessment and level of the programme closely.

The panel concludes that the programme is a strong and relevant initiative, both in content and flexibility. All conditions are in place to guarantee students a well-organised programme, supported by the necessary personal and material facilities. The panel, therefore, expresses its confidence in the quality of the programme.

## 4 Commendations

The programme is commended for the following features of good practice.

1. Societal relevance – Upon graduation, students will be critical thinkers who can contribute to the solution of sustainability problems by combining their broad knowledge of plant biology, earth science, food and nutrition science, and consumer behaviour.
2. Balance between structure and flexibility – The curriculum starts with foundational courses for all students. After that, students follow their own study path and select courses that fit their strengths, interests and future career ambitions, guided by an academic advisor.
3. Active learning in small groups – In the university's educational system of Problem-Based Learning students work together on real-life problems.
4. Strong connections with the work field – Interaction with companies on and off the campus is intensive and based on previous positive experiences. Companies provide input for projects and theses and have a strong interest to recruit students from the programme after a subsequent relevant master programme.
5. Experienced teaching team – Teachers are part of leading research groups and have ample experience in teaching, supervising and advising students.

## 5 Recommendations

For further improvement to the programme, the panel recommends a number of follow-up actions.

1. Ties with professional field – Formalise and extend the existing contacts with companies and organisations by inviting them to be part of an advisory board and include relevant non-governmental organisations as well.
2. Feasibility of three-weeks projects – Check internally and with external partners if the time frame for projects must be limited to a three weeks' fulltime period or if in some cases better results can be obtained when projects are spread out over a longer period.
3. Campus life – Stimulate a vibrant campus life by organising more frequent public transport and helping students to set up a student association and to organise social activities, related to the content and philosophy of the programme.
4. Generative Artificial Intelligence – Monitor the development of Generative AI closely, let staff and students use it when appropriate and ensure that it cannot be misused in exams and assignments.
5. Grading – Make sure that staff and students know what level must be achieved in projects and assignments over the years, by making the grading guidelines (rubrics) more specific and maintaining an adequate balance between formative and summative assessment.

## 6 What comes next?

NVAO grants initial accreditation to a new programme on the basis of a panel's full report. The decision is valid for a maximum of six years. For conditional accreditation other regulations apply. Upon accreditation, the new

programme will follow the NVAO review procedures for existing programmes. NVAO publishes the accreditation decision together with the full report and this summary report. <sup>1</sup>

Each institution has a system of quality assurance in place ensuring continuous follow-up actions and periodic peer-review activities. Peer reviews help the institution to improve the quality of its programmes. The progress made since the last review is therefore taken into consideration when preparing for the next review. The follow-up activities are also part of the following peer-review report. For more information, visit the institution's website. <sup>2</sup>

## 7 Summary in Dutch

Het panel oordeelt positief over de kwaliteit van Sustainable Bioscience van Universiteit Maastricht. Dit is de uitkomst van de kwaliteitstoets uitgevoerd door een panel van peers op verzoek van de Nederlands-Vlaamse Accreditatieorganisatie (NVAO). Voor deze beoordeling heeft het panel gesprekken gevoerd met de opleiding op 15 april 2025.

De bacheloropleiding Sustainable Bioscience is een voltijds interdisciplinair programma van drie jaar en zal worden aangeboden op de Brightlands campus in Venlo, waar de universiteit al samenwerkt met een groot aantal relevante bedrijven. Afgestudeerden zullen kunnen bijdragen aan het oplossen van duurzaamheidsproblemen door hun gedegen kennis van (planten)biologie, aardwetenschappen, voedingswetenschap, consumentengedrag, data en technologie. In het eerste jaar krijgen de studenten basis cursussen in deze wetenschappen. In de twee volgende studie jaren kunnen ze een individueel studiepad kiezen, gericht op hun toekomstplannen voor een aansluitende master. Ze kiezen uit het aanbod van cursussen en vaardigheidstrainingen en worden daarin begeleid door een adviserend docent. Behalve uit cursussen en trainingen omvat het curriculum projecten waarin studenten hun kennis en vaardigheden integreren aan de hand van reële onderzoeksvragen, vaak aangedragen door de bedrijven op de campus. Het panel vraagt zich af of de vaste periode van drie weken voor alle projecten geschikt is. Studenten werken in kleine groepen. Het systeem van Probleemgestuurd Onderwijs stimuleert actief leren en draagt bij aan de ontwikkeling van sociale vaardigheden. Aan de hand van Onderzoeksgestuurd onderwijs doen studenten systematisch onderzoeksvaardigheden op. Aan het eind van de opleiding voeren ze een individueel onderzoeksproject uit waarin ze aantonen dat ze de einddoelen van de opleiding hebben behaald. De geglobaliseerde arbeidsmarkt en de geografische ligging van de universiteit, met als gevolg een instroom van veel studenten uit België en Duitsland, zijn goede redenen om Engels als voertaal van het programma te kiezen. De docenten maken deel uit van toonaangevende onderzoeksgroepen en hebben veel onderwijservaring. Studenten uit vergelijkbare programma's vinden dat ze gemakkelijk met vragen bij hun docenten terecht kunnen. De studiebegeleiding is goed geregeld. Bij de start van het programma zullen er op de campus studentenhuisvesting en een restaurant bijgebouwd zijn. Voor het openbaar vervoer en sociale activiteiten is nog extra aandacht nodig. De opleiding beschouwt toetsing als een onderdeel van het leerproces. Daarom krijgen studenten regelmatig feedback. De docenten gebruiken verschillende toetsvormen om vast te stellen of studenten de leerresultaten hebben behaald, zoals labverslagen, schriftelijke examens en presentaties. Het toetsplan laat zien dat alle leerdoelen in de toetsing aan bod komen. De examencommissie borgt dat de toetsen van voldoende kwaliteit zijn en bewaakt het eindniveau van de opleiding. De examencommissie en de docenten zijn zich bewust van de mogelijkheden, maar ook van de risico's van generatieve AI. Het is belangrijk de ontwikkelingen op dit vlak nauwlettend te volgen.

Meer informatie over de NVAO-werkwijze en de toetsing van nieuwe opleidingen is te vinden op [www.nvao.net](http://www.nvao.net). Voor informatie over de Universiteit Maastricht verwijzen we naar de website van de instelling. <sup>3</sup>

---

<sup>1</sup> <https://www.nvao.net/nl/besluiten>

<sup>2</sup> <https://www.maastrichtuniversity.nl/nl/onderwijs>

<sup>3</sup> <https://www.maastrichtuniversity.nl/education>

