

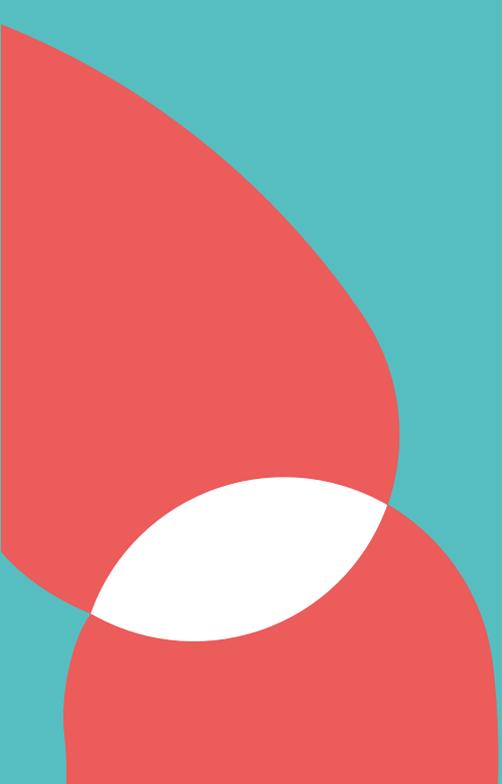


NVAO • THE NETHERLANDS

## INITIAL ACCREDITATION

WO-MASTER CROP BIOTECHNOLOGY AND  
ENGINEERING (JOINT PROGRAMME)  
MAASTRICHT UNIVERSITY  
RADBOD UNIVERSITY NIJMEGEN

SUMMARY REPORT  
21 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 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) makes a formal decision on the programme's quality based on the outcome of the peer review. This decision can be positive, conditionally positive or negative. If the decision is positive, with or without conditions, the institution may proceed to offer the new programme. Graduates of the programme will then be entitled to receive a legally accredited degree.

This summary report highlights the key outcomes of the peer review. A full report with more details including the panel's findings and analysis is also available. NVAO bases its accreditation decision on this more detailed report.

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

## 2 Panel

### Peer experts

Prof. dr. Vera van Noort (chair), Professor of Computational System Biology – Faculty of Bioscience Engineering- KU Leuven and Professor of Computational Biology– Institute of Biology Leiden (IBL) – Leiden University;

Dr. Marcel Proveniers (member), Assistant Professor (UD)/Translational Plant Biology Utrecht University;

Dr. Gert-Jan de Boer (member), Manager Research & Applications Molecular Biology Application, ENZA Zaden R&D B.V.;

Vincent van der Wolf BSc (student-member), Master Population Health Management Leiden University (following);

### Assisting staff

1. Eva de Haan MSc MEd, secretary
2. Anne Klaas Schilder MA, NVAO policy advisor and process coordinator

### Site visit

Venlo, 4 April 2025

### 3 Outcome

The NVAO approved panel reached a positive conclusion regarding the quality of the Master Crop Biotechnology and Engineering (CBE) offered by Maastricht University and Radboud University Nijmegen. The joint programme meets all standards of the NVAO framework.

The master CBE is a master programme focused on both biology and engineering aspects of crop technology. Students will become well-rounded professionals with advanced knowledge of the state of the art in high-tech horticulture. The programme offers an interdisciplinary approach primarily focused on biology and cultivation technology. The master is a joint programme between two universities which have signed a cooperation agreement. The intention of the partners is to distribute efforts equally between them. To implement this in practice, the programme director and vice-director will alternate between the partners.

The proposed curriculum for the CBE master is extensive and complete and covers the intended learning outcomes. The panel finds that the intended learning outcomes are well described and meet the national and international standards for a master programme on the intersection of science and engineering. The CBE programme integrates the educational concepts from both universities very well. This leads to small-scale team-based education with a strong focus on real-life problems. This enables students to be self-directed in their learning and develop strong research skills within a structured educational environment.

During the development of the programme there has been a strong connection with industry. This is furthered by the facilities and location of the Brightlands campus in Venlo where education, research and industry are co-located. The graduation project with a load of 47 EC will enable students to have an in-depth research experience during their studies. This further solidifies the strong academic profile of the CBE master.

The research environment and the industry on the topic of crop biotechnology and engineering are highly international. The location of the campus near German and Belgian borders further strengthens the international orientation of the programme. The panel agrees that the English language as the language of instruction is the logical choice for the programme. The proposed duration for the CBE master is two years (120 EC). The panel agrees with the applicants that the extent and complexity of the learning outcomes of the master programme cannot be achieved in one year. Students come into the programme from different backgrounds and need time to get acquainted with the other disciplines within the programme. After this, students need to specialize and get sufficient experience to reach the master level. The panel therefore recommends granting the applicants the right to offer the CBE master as a two-year master programme.

Through the information in the information file and the extensive discussions during the site visit, the panel concludes that the CBE master meets the quality level required by NVAO. The panel is convinced of the quality of the proposed programme and assesses it as positive.

Standard	Judgement
1. Intended learning outcomes	meets the standard
2. Teaching-learning environment	meets the standard
3. Student assessment	meets the standard
<b>Conclusion</b>	<b>Positive</b>

## 4 Commendations

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

1. Unique mix of biology, technology and engineering – The master programme uniquely combines the field of biology with technology and engineering.
2. High-tech facilities on campus – The Venlo campus has modern education and research facilities, enabling state-of-the art research and good facilities for education. The planned expansion of lab facilities and student housing on campus will make for an attractive campus.
3. Educational concepts – The educational philosophy of problem-based learning is mixed with the concept of team-based learning and research-based learning. This unique combination ensures small-scale education tailored to the learning needs of the student.
4. Close collaboration with industry - Industry partners have been asked for feedback on the curriculum and regular contacts and advice will be established through the industry advisory board. Industry partners will also supervise internship and thesis projects.
5. Academic advising – The system of appointing an academic advisor for each student, who can help with study and career choices, is applauded by the panel.

## 5 Recommendations

The panel recommends several follow-up actions to improve the programme further. These recommendations do not detract from the positive assessment of the programme's quality.

1. Align staff from both universities – As both universities are used to their own unique educational concepts and best practices, it is vital to inform each other of these through regularly scheduled information meetings and documentation. For future alignment it is important that staff have sufficient time to be present at campus Venlo.
2. Systematically adopt student feedback – Current students from both universities have good advice on which best practices to adopt for this new programme. Actively consult their advice while preparing and further developing the programme.
3. Actively recruit students from both biology and engineering – The programme fosters an interdisciplinary environment where students from different backgrounds learn from each other. This cooperative learning will be optimal if there are sufficient students from each background discipline.
4. Continue to consult industry for real-world input – Students work on real-world problems and projects within their courses. The industry experience with novel issues in the sector can help formulate problems and projects that reflect the state of the art.
5. Align software, programming language and other tools within the programme – Lecturers come from different backgrounds and are used to working with different tools. In order for the students to have a smooth experience in the programme, it is recommended to make deliberate choices about which tools to use.

## 6 What Comes Next?

NVAO grants initial accreditation to a new programme based on the panel's full report, with the accreditation being valid for up to six years. Once accredited, the new programme will adhere to NVAO's review procedures for existing programmes. NVAO publishes the accreditation decision along with the full report and this summary report.<sup>1</sup>

Each institution has a quality assurance system, ensuring continuous follow-up actions and periodic peer-review activities. Peer reviews help the institution to improve the quality of its programmes. Progress made since the last review is considered when preparing for the next one, and the follow-up actions are included in the subsequent peer-review report. For more information, you can visit the institution's website.<sup>2</sup>

## 7 Summary in Dutch

Het panel oordeelt positief over de kwaliteit van de gezamenlijke wo-master Crop Biotechnology and Engineering (CBE) van Maastricht University en Radboud Universiteit Nijmegen. 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 4 april 2025.

De master CBE richt zich op zowel biologische als technische aspecten van gewasbiotechnologie. Het programma heeft een interdisciplinaire benadering en leidt studenten op tot academische professionals in het vakgebied. Het panel is van mening dat de beoogde leeruitkomsten goed beschreven zijn en voldoen aan de nationale en internationale standaarden. Het programma is gebaseerd op de onderwijsconcepten van beide universiteiten en integreert deze zeer goed. Het onderwijs is kleinschalig en heeft een duidelijke connectie met de praktijk via probleemgestuurd onderwijs en projecten. Deze vorm van onderwijs stelt studenten in staat om zelfsturend te leren en sterke onderzoeksvaardigheden te ontwikkelen binnen een gestructureerde onderwijsomgeving.

Het onderwijs wordt gegeven op de Brightlands campus in Venlo waar onderwijs, onderzoek en industrie zijn samengebracht. De onderzoeksomgeving en de industrie op het gebied van gewasbiotechnologie zijn zeer internationaal georiënteerd. Het panel is het erover eens dat de Engelse taal als onderwijstaal de logische keuze is voor het programma.

De voorgestelde duur voor de master is twee jaar (120 EC). Studenten komen vanuit verschillende achtergronden het programma binnen en hebben tijd nodig om kennis te maken met de andere disciplines binnen het programma. Daarna moeten studenten zich specialiseren en voldoende ervaring opdoen om het masterniveau te bereiken. Het panel is het met de aanvragers eens dat de omvang en complexiteit van de leerresultaten van het masterprogramma niet in één jaar kunnen worden bereikt, en adviseren de master als tweejarige opleiding aan te bieden.

Op basis van de informatie in het informatiedossier en de uitgebreide gesprekken tijdens het locatiebezoek concludeert het panel dat de master voldoet aan het door de NVAO vereiste kwaliteitsniveau. Het panel is overtuigd van de kwaliteit van het voorgestelde programma en beoordeelt het als positief.

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 Maastricht University en Radboud Universiteit Nijmegen verwijzen we naar de websites van de instellingen.<sup>3</sup>

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

<sup>2</sup> <https://www.maastrichtuniversity.nl/> | <https://www.ru.nl/en>

<sup>3</sup> <https://www.maastrichtuniversity.nl/nl> | <https://www.ru.nl>

This summary report was written at the request of NVAO and is the outcome of the peer review of the new programme  
Wo-master Crop Biotechnology and Engineering Maastricht University and Radboud University Nijmegen

Application no: AV-3055 and AV-3056



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