

## Public report quality of the Master of Science in Bioscience Engineering: Sustainable Urban Bioscience Engineering

### Most important conclusions from the Initial accreditation customised to own conduct of the Master of Science in Bioscience Engineering: Sustainable Urban Bioscience Engineering

The [report](#) the Initial accreditation of 2022 mentions some strong points and contains some recommendations for further improvement that will be implemented by the programme. The study programme was accredited as new programme by NVAO on the basis of this report.

Below are the most important conclusions from the Initial accreditation.

#### Strengths of the programme

The two-year English-language programme is organised jointly by UAntwerp (coordinator), UGent and KU Leuven and supported by a **solid and motivated team** of programme coordinators and lecturers. There is demonstrable interest from the **professional field** for this **broad and multidisciplinary programme** that aims to train bio-engineers who can provide sustainable and (eco)technological solutions for urban environmental issues (relating to climate change, biodiversity, circularity, energy, mobility, food, etc.).

The **programme** and the **learning outcomes** have been carefully considered, with attention to harnessing the strengths and research expertise of the three universities collaborating in this programme. The ambitious curriculum is rooted in bioengineering, complemented by other disciplines such as urban development, economics and law. The curriculum offers a well-balanced mix of **theory and practice**, building a **solid and broad knowledge base** through an integrated approach to sustainability. In the second year, students have ample opportunities to further **deepen or broaden** specific topics.

The training programme is **innovative** in terms of **teaching and learning methods**. The integrated cases and city labs are an example of innovative competence-based and problem-oriented education. Here, students work in groups on concrete and authentic problems, in cooperation with researchers from the three universities and with relevant stakeholders from the field.

The programme is integrated into the **quality assurance** system of the University of Antwerp. The **Education Committee** (EC) of this new master ensures the quality assurance of the programme and is responsible for navigating the processes of systematic care for educational development of the programme. Through the EC, regular discussions occur among programme coordinators, faculty members from the three institutions, and student representatives. The EC will particularly ensure that the **domain-specific learning outcomes, core competences**, and **courses** are adequately **aligned** and effectively **implemented** in the curriculum and learning paths.

#### Suggestions for further improvement

The programme must carefully balance the **depth and breadth** of its curriculum. The committee advises the programme to further clarify, during the actual implementation of the programme, the inclusion of non-engineering knowledge, social, ethical, and policy aspects, as well as qualitative assessments necessary for the comprehensive application of sustainability assessment. Additionally, it is important to communicate the **profile of graduates** clearly to the professional field and (potential) students.

The master's programme includes a mandatory **internship** that, despite its limited duration, provides a compelling added value. If well-structured and with clear agreements made with the professional field offering internship positions, the internship experience will allow students to gain valuable insights into the field, where they have to take on various roles. Students have the opportunity to integrate their internship and master's thesis into an



**international study experience**, which must be closely monitored by the programme. In this context, the programme will provide students with an overview of options abroad that align with the programme by default, and where the internship and master's thesis can be carried out within the mobility window.

Finally, the Committee appreciates the additional faculty members and administrative capacity allocated to implement the programme, the study facilities and the clear attention to the programme's feasibility, study guidance across the three campuses, and information provision (courses, study materials, assessments, etc.). For the future, the Committee recommends closely monitoring the **capacity** to ensure that the programme can be realised with the planned ambition and intensity, even if the enrolments in this innovative and attractive programme would increase significantly.