

Study programme: Master in Bioscience Engineering: Human Health Engineering

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KU Leuven uses the [COBRA method](#) to work on the quality of its study programmes. In this report the programme committee reports every four years on the quality of its programme(s) and describes the identified strength(s) and planned action(s) of its programme(s) Human Health Engineering.

Strengths of the study programme(s)

The education programme is unique in Flanders and Europe with its focus on the application of process and system thinking as transferable skills for applications in human health engineering.

Students with a Bachelor in Bioscience Engineering entering this Master report a smooth transition thanks to the generic knowledge obtained in this Bachelor programme on which it builds. The transition for students with another background is facilitated by a focus on a quantitative background in the admission requirements and the definition of a package of remediation courses.

The programme follows a **system oriented, quantitative approach** to measure, model and control biosystems aimed at the development of technology for human health from a biological knowledge perspective. It focuses on the integration of knowledge in engineering and biology for real-life applications. Students learn to cope with the complexity inherent to biological systems from a conceptual, scientific point of view.

The **project work Biosystems Engineering** is highly appreciated by both students and representatives from the industry thanks to its approach of 'Learning by doing'. Within this project a company setting is simulated where the students collaborate as a team to develop a technological product. In this way, they not only obtain technical competences, but also professional skills like project management, business communication and the elaboration of a business plan.

Students get in **contact with the industry** through seminars, internships and master theses in collaboration with companies. The wide national and international network of the teaching staff and their extensive collaboration with industry are an important asset for this.

Planned actions

- Internships will be further promoted by regularly mentioning company contacts and internship opportunities in lessons.
- More focus on the use of modern, universal programming languages.
- More attention will be paid to reducing repetition in courses by providing access to information on course requirements.
- A better combination of online and live teaching in an activating teaching format to enhance students' learning experience.
- Greater focus on socially relevant topics such as the transition to a circular economy and an ageing population.
- Promotional material will also focus on international employment opportunities and transversal profiles

This COBRA report is a result of the past four-year COBRA cycle (2019-2023). Each study programme that participated in the COBRA cycle has drawn up this document, which specifies the strengths and planned actions of the study programme. These strengths and actions result from the dialogue between the programme and its stakeholders (primary actors, alumni, professional field and international experts from the discipline). This report aims to give a comprehensive indication of the study programme's realised quality. The COBRA report will be made available in the programme guide, so it will be accessible to the public.



More information on COBRA: <https://www.kuleuven.be/english/education/quality/cobra-english/quality-assurance-method>
More information on the quality of education: <https://www.kuleuven.be/english/education/quality>
KU Leuven educational terminology: <https://www.kuleuven.be/english/education/educational-glossary/educational-glossary>