



MASTER OF SCIENCE IN INNOVATIVE HEALTH TECHNOLOGY

KATHOLIEKE UNIVERSITEIT LEUVEN
CONDUCT-TAILORED ACCREDITATION • ASSESSMENT REPORT

25 MAY 2023

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Table of contents

1	Executive summary	4
2	Examination of the panel	6
2.1	About the programme	6
2.2	The panel's first impressions	6
2.3	Themes to be discussed with the programme.....	6
2.3.1	Profile.....	6
2.3.2	Intake process.....	6
2.3.3	Learning outcomes	7
2.3.4	Educational quality	7
2.3.5	Thesis and internship.....	7
2.3.6	Quality assurance and programme committee	7
2.4	What did the panel learn from the dialogue?.....	7
2.4.1	Profile.....	7
2.4.2	Intake process.....	8
2.4.3	Learning outcomes	9
2.4.4	Educational quality	9
2.4.5	Thesis and internship.....	11
2.4.6	Quality assurance and programme committee	12
3	Judgement.....	14
4	Review process.....	15
	Annex 1: Administrative data regarding the institution and the programme.....	16
	Annex 2: Programme-specific learning outcomes.....	17
	Annex 3: Composition of the panel	18
	Annex 4: Schedule of the site visit.....	19
	Annex 5: Overview of the material studied.....	20
	Annex 6: List of abbreviations	21

1 Executive summary

The panel unanimously considers the quality of the Master of Science in Innovative Health Technology to be sufficient, and advises NVAO to take a positive accreditation decision.

The one-year international advanced master in Innovative Health Technology is embedded in the Faculty of Engineering Technology at KU Leuven, and is currently in its third year. The programme is aimed at students who have already obtained a master's degree in engineering technology or equivalent. They learn to apply their technical knowledge in the domain of healthcare, by designing, developing and implementing technological solutions.

The panel's first impression of the programme, based on the self-assessment report, was positive. This was further confirmed during the dialogue that the panel had with programme representatives, students, teaching staff, and representatives of the professional field and alumni. The discussions were characterised by enthusiasm, self-awareness and openness, which the panel appreciated. The panel chose to investigate six themes: the programme's profile, the student intake process, learning outcomes, educational quality, thesis and internship, and quality assurance and programme committee.

The panel encountered a well-established programme with a strong profile and identity, that – according to students, alumni and representatives of the professional field – is of added value. The panel believes the programme succeeds in marrying healthcare, industry and technology. The programme has a clear vision on how students should be prepared for the profession, while providing room for students to pursue their individual interests and build on their academic backgrounds. Collaborative work, championing students' multidisciplinary and intercultural backgrounds, is a key element, the panel learned. The programme is building its network of companies and organisations offering internships. The panel encourages the programme to keep monitoring the quality of these internships, as these are a crucial part of the curriculum and the students' learning experience.

The panel has three recommendations:

1. Involve all stakeholders in the continuous evaluation of the programme. Since benchmarking is challenging for a programme as specific as this, the panel recommends collecting input from all stakeholders continuously. As the programme is specifically geared towards the healthcare industry, the panel believes it is crucial to keep the industry involved at all times. Students and alumni are other important stakeholders, whose involvement in the programme's evaluation could be deepened. In particular, the panel recommends giving students an active role in the programme committee.
2. Formalise tasks, best practices, processes, strategies and responsibilities. The panel sees that the programme and its teaching staff have developed many good practices, processes and strategies. The panel also noted that the programme director carries many responsibilities, ranging from teaching to student recruitment to coordination of the programme, and from students' scientific supervision to being the contact person for external stakeholders and alumni. The panel feels now is the time to start securing or formalising tasks, practices, processes and the like, and to reflect on the possibility of dividing responsibilities. Further professionalising the programme committee is an example of this.
3. Focus on student recruitment, and use formal and informal routes to boost the programme's marketing. The programme needs to increase its number of students, to improve its financial stability and strengthen the heterogeneity of its student body with the aim of further improving the programme's quality. The panel believes that the multidisciplinary and intercultural aspect is one of the programme's particular strengths. The panel supports every effort that KU Leuven could make to help the Master of Innovative Health Technology reach a broader audience.

The Hague, 25 May 2023

On behalf of the expert panel convened to assess the Master of Innovative Health Technology:

Johannes Jan Struijk
(chair)

Eleonoor Tchernoff
(secretary)

2 Examination of the panel

2.1 About the programme

The Master of Science in Innovative Health Technology is embedded in the Faculty of Engineering Technology at KU Leuven, and started in the academic year 2020-2021. It is a one-year international advanced master's programme, aimed at students who have already obtained a master's degree in engineering technology or equivalent. They learn to apply their technical knowledge in the domain of healthcare, by designing, developing and implementing technological solutions. The programme recruits students from its own university, as well as offering scholarships¹ to students from abroad. The programme currently has nine students.

2.2 The panel's first impressions

The panel has a positive first impression of the programme. The self-assessment report paints a clear picture, and has provided the panel with a good understanding of the programme's orientation, the curriculum, and how it collaborates with industry and medical specialists.

The panel has identified several strong elements. First, the programme has a clear orientation, connecting research, healthcare and technology development. The learning outcomes are well-defined. The curriculum shows a holistic approach and touches upon many topics that the panel indeed believes to be relevant for future professionals. It is challenging, and also well-structured. The programme was designed with the expected roles of graduates in mind, as well as job demands from the broad field of health technology. The continuous involvement of industry professionals is another strong element, according to the panel.

The programme celebrates the multidisciplinary and multicultural background of its students, and makes the most of this by promoting collaborative work. The panel notes that students appreciate this too.

Students are evaluated through a mix of assessment forms, including exams, presentations, portfolio and peer assessment. The assessment procedures seem transparent. The teaching staff has a broad and solid research profile and is thus well-qualified for research-based teaching and supervision of research/development projects as well.

Another strong point is that feedback mechanisms seem to work well. Even though the programme is only in its third year, there is ample student feedback. The programme is also strongly embedded within, and supported by, the Faculty of Engineering Technology.

2.3 Themes to be discussed with the programme

After reading the self-assessment report, each panel member prepared a list of questions. The panel then decided to group these under six broad themes, which are reflected in the subparagraphs below.

2.3.1 Profile

The panel would like to have a better understanding of the specific profile and positioning of the programme, and in particular how this differs from a medical-technology track in a "regular" engineering technology programme. The panel is also interested in learning how the programme reflects on the word innovative in its programme title.

2.3.2 Intake process

The panel grouped several questions related to recruitment and student intake. First, the panel wants to know more about the admission criteria: how are they used in practice, and what do they imply? By extension, the panel wants to know more about the programme's wishes and actions regarding the recruitment of new students. Finally, the panel would like to

¹ The scholarships are provided by an external organisation.

know how new students, from outside KU Leuven, are introduced to and integrated in the study environment and living in Leuven.

2.3.3 Learning outcomes

The panel is curious to know how the programme reflects on its learning outcomes now, after three years. Have any changes been made?

2.3.4 Educational quality

The panel would like to hear more about the rationale of the curriculum, and how the programme reflects on the curriculum three years after its start. In addition, the panel is curious to learn how students and alumni perceive the study programme, and how they would describe its quality.

Because the study programme prepares students with an engineering background to work in (or together with) the field of healthcare, communication skills are key. The panel wonders in what way students are trained to communicate with healthcare professionals and patients, or more generally with “non-engineers”.

The master’s programme is situated in a multidisciplinary domain, and the student body is multidisciplinary as well. The panel would like to have a better understanding about how multidisciplinary is embedded in the curriculum. Next to that, the panel has questions about the assessment of multidisciplinary group work.

2.3.5 Thesis and internship

The thesis and internship are an important and substantial part of the curriculum. The panel would like to have a better understanding of what the internship entails, how the role of the internship company takes shape, and how students are supported.

The professional field has played an important role in the set-up of the programme, and is still involved by offering internships and giving guest lectures. The panel would like to hear more about the involvement of the professional field, and the various ways in which they play their part.

2.3.6 Quality assurance and programme committee

The panel is interested to learn more about how stakeholders, and students in particular, are involved in the continuous evaluation of the programme. The panel would also like to hear more about the remit of the programme committee.

2.4 What did the panel learn from the dialogue?

The following paragraphs discuss the panel’s findings for each of the aforementioned themes.

2.4.1 Profile

The panel learned that the “regular” Engineering Technology master’s programme at KU Leuven takes one year instead of two. The programme’s management explained that, for students who wish to specialise in health technology, an advanced master is therefore necessary. The dedication to health technology makes this programme unique. There are indeed students who have taken medical-technology tracks before but “they confirm they still learn new things”, the panel was told by programme representatives.

The programme has a clear demarcation. For example, the panel learned that there is quite some interest from medical students who would like to join the advanced masters. The programme director explained that this is not possible: students need a technological background, also to be able to perform well in an internship.

The panel discussed the meaning of the word innovation with all stakeholders, and got various answers. The common ground is that the programme focuses on the state-of-the-art, and that the broad curriculum and the way in which the programme makes use of the multidisciplinary background of its students is innovative as well. Innovation as the process

from idea to revenues is specifically addressed in the course 'Health Entrepreneurship'. The panel believes it may still be a worth-while exercise defining what innovation means to the programme.

2.4.2 Intake process

The panel learned that the programme director is responsible for the student selection procedure. He checks students' documentation, and interviews the selected students to assess their level of motivation. All management representatives state that they believe that there is a strong sense of self-selection. Students that apply "score above average" - although this is no formal requirement, the panel learned. "Those who want to continue their studies [after obtaining their first master's degree], are the ones who are very motivated". Only a "small percentage" of students is not accepted to the programme; this is also due to the relatively small number of applications.

The panel respects the chosen selection method. However, given the perceived self-selection and high level of the students, the panel wonders whether such a rigorous selection procedure is indeed necessary. The programme may wish to reflect on this, also in view of the ambition to increase its number of students. Furthermore, the programme may wish to consider applying the four-eyes-principle to its selection procedure.

The programme currently has nine students, and aims to grow to up to twenty. Up until last year, all students were either alumni of KU Leuven, or of international universities that KU Leuven has a relationship with² (these international students were offered scholarships). The panel was pleased to hear that the programme has received its first application from a student from another Belgian university. The panel believes that other Belgian universities could be an important target group to recruit from.

Three years in, the programme had hoped to have higher student numbers. The panel was assured to learn that the campus is supportive of new study programmes, and is realistic about the challenges of the start-up phase. However, student recruitment is important. In the self-evaluation report it is explained that the programme's revenues "do not yet fully cover the total cost", and that more students could help obtain a "break-even point". Next to that, the panel believes a larger number of students could contribute to an even richer heterogeneity, and thus further improve the quality of the programme.

Several interviewees suggested that the global pandemic may have contributed to the low number of students, but the programme's management was quick to stress that this is "no excuse". The panel learned that the programme is dependent on KU Leuven for recruitment, and is therefore limited in its possibilities. The programme already uses social media, and plans to start using LinkedIn to raise the programme's visibility. The panel would like to stress the importance of recruitment, and supports every effort that KU Leuven could make to help the Master of Innovative Health Technology reach a broader audience.

The panel discussed recruitment during its session with representatives from the professional field, PhD students and alumni as well. One of the attendees suggested that internship companies could perhaps make more publicity for the programme, another offered that the programme should be promoted more to engineers and bio-engineers. Another option that was briefly discussed is offering (parts of) the programme to professionals, as part of lifelong learning/professionalisation schemes. Although the panel learned that another study programme tried this, and wasn't as successful as hoped, it may still be worthwhile exploring this option, particularly in the light of the Belgian government's ambitions regarding lifelong learning.

² The international students are offered scholarships, but the panel learned that the scholarship organisation will cease to exist. The management is exploring other options.

The panel learned that there are several ways that contribute to new students feeling at home in Leuven and at the university. First, the campus has its own international office, that deals with issues like housing and paper work, and initiates activities where students can meet. Second, the programme's small number of students means that all students know each other. The curriculum also includes several courses where students have to collaborate in mixed teams. "Students stick together quite well", a management representative said. The panel witnessed just that: a group of students who clearly know each other, collaborate and embrace their different professional and cultural backgrounds.

2.4.3 Learning outcomes

"We haven't made any changes, we made good choices from the start", a programme representative said when asked how the programme reflects on its learning outcomes, three years since they were first adopted. The panel learned that the programme specific learning outcomes set by the Faculty of Engineering Technology were used as a starting point, and that all newly developed courses (six out of seven) were linked to these. The panel was told that should students or staff feel a learning outcome needs amending, there is a process in place. It would go via the programme committee, and could be taken to faculty or even university level if need be. The panel is assured that these processes are organised well and are taken seriously.

A programme representative pointed out that it is important that students know the learning outcomes for each course. The panel learned that teachers fill out a so called ECTS fiche (otherwise known as a course description) each year. These are approved by the programme director. It is also checked whether all learning outcomes are covered. The panel heard from students that they know where to find the ECTS fiches on Toledo. However, students told the panel that Toledo "isn't used a lot" and that information about deadlines isn't always available on time. Whenever they have questions, they contact their teacher directly. Teachers confirmed this. The panel notes that this more informal way of working seems to serve everyone well. However, the panel would encourage the programme to use its (already existing) formal lines of communication, and to keep promoting the use of Toledo to students. At the same time, the programme needs to ensure that information on topics such as assessment criteria and deadlines is always up to date. The panel was able to find information quite easily – both on Toledo and on the public website of KU Leuven – whereas students said they weren't informed about or couldn't find specific information. Here, communication seems key.

2.4.4 Educational quality

The programme's curriculum consists of seven courses plus a thesis and internship. There is a balance between content-related courses, and courses focusing on processes and business aspects. The panel values that the programme touches upon a broad variety of topics, advocating a holistic approach, and providing students with an overarching view of health technology and innovation. The programme aims to "create awareness" of the process of bringing a product to market, rather than delving into every detail. "Most companies have an expert on something like intellectual property. Students should know that they exist, and what their roles are in the company. They don't have to become experts themselves.", a programme representative illustrated.

Students specialise by choosing different pathways for their thesis and internship; the variety of internships and research topics that the panel heard about is large.

The programme aims to teach students to "design, develop and implement" technological solutions for the healthcare sector, as stated in the self-assessment report. The panel wonders whether the process of implementation is indeed covered completely. The panel has the impression that the actual inclusion of a product in the healthcare system is underexposed, while this final step is crucial. It requires knowledge of stakeholders, decision makers (such as insurance companies and health authorities) and decision criteria. The programme may wish to reflect on this. More generally, the panel would like to encourage the programme to keep pushing the boundaries of what an advanced master might entail.

With such highly motivated and bright students, the programme could reflect at a metalevel on topics like the position of medical technology within the healthcare system.

When the programme was set up in 2020, all but one of the courses were newly developed. One of the benefits of this choice, the panel was told, is that teachers have been able to take students' different study backgrounds into account when developing their course curriculum and defining their assessment. The panel would encourage the programme to also explore the potential of other existing courses, which could contribute to students' multidisciplinary experience. The panel learned that there may be a new programme to be set up for medical students, which – in time – could lead to shared courses.

The panel was taken by the enthusiasm and professionalism of the teaching staff. Teachers gave several examples of how they had developed and improved their courses over the last three years, and expressed a clear view on how to deal with students' multidisciplinary backgrounds. All teachers spoke about bringing state-of-the-art developments into the classroom, referring to knowledge gained at international conferences or from other professional engagements. The panel noted how themes like ethics, risk analysis and compliance aren't limited to a single course, but rather are interwoven in several courses. The panel believes this is important, as it gives students the chance to connect to these themes more deeply.

The global pandemic led to more online education, and the teaching staff has taken this in their stride. "The pandemic forced us to be creative", a teacher said, adding that the small group size of the study body allows for some experimentation too. This led to the introduction of didactical concepts like flipping the classroom, and video lectures.

The panel met with a group of students, and – in a separate session – with a few alumni. All spoke passionately and positively about the programme, while at the same time offering some points for improvement. Students and alumni value the "broad view" of the programme. They feel that they have a good understanding of the field that they are operating in, including topics like market-readiness, financial aspects and intellectual property. The multidisciplinary group work, and project assignments, contribute to a rich learning experience. For some students, the internship led to a much higher level of knowledge regarding topics like intellectual property and regulations, but experiences vary. Students feel that they are well-prepared for the professional field. They mentioned the "added value" of the programme to their existing degree several times, which was echoed by representatives from the professional field.

The panel wondered whether students feel that they have enough opportunities to work together with non-engineers. Students said that "this could be more", but explained that they feel that they have enough understanding of the body and biological processes to confidently talk to doctors and patients. The course The Human Body is deemed vital to this, the panel learned. In the course Health Engineering Experience, students have to undertake a project for which they are required to meet with a clinician, which several students and alumni said helped them "enormously". The course Health Entrepreneurship consists of a series of guest lectures, including non-engineers. A staff member said: "We always invite students to talk to experts when they develop something. They need to know their needs."

The panel wonders whether the programme could make even more use of its connections with the university hospital and other clinicians, ideally offering all students the opportunity to work in a clinical environment. It would allow students to really deepen their knowledge and understanding of the healthcare sector, and to practice their communication skills with non-engineers; an opportunity they are much less likely to get after graduation. Currently, the hospital offers clinical internships, but when a student favours another internship, s/he will not have much clinical experience.

One of the features of the programme is its multidisciplinary and culturally diverse student base. The panel met with a group of students who previously studied in Belgium, Iran and Ethiopia, with professional backgrounds ranging from electronics-ICT to biochemical engineering. Students feel that the programme accommodates these different study backgrounds well, although both students and staff acknowledge that it can be “a challenge” sometimes. Students stress that they learn from each other, and help each other when possible. “That’s an extra”, a student offered. “I really like it”, another said. The panel heard about examples of projects where students with different cultural backgrounds cooperate, learning about different cultural contexts and implications this may have on healthcare along the way. “Multicultural is what real life is like, we didn’t always have that in our previous studies.”, a student said.

The teaching staff underlined the benefits of the multidisciplinary character of the student body. When possible, students are deliberately put into mixed teams (with different disciplines). “The blend gives a better quality and a richer report”, a teacher said. The panel noted that teachers have different approaches to dealing with the differences in students’ backgrounds. “I learned to deal with it”, a teacher said. Another colleague talked about starting the course at a relatively low level and “going faster when students already know something”. Another teacher focuses on group work, mixed with individual assignments. In some cases, students already meet the course criteria because of previous achievements – some choose to take the course regardless.

The panel was interested in learning how teachers assess students when their entrance level is different, and how they guarantee that the learning outcomes are met. Again, the panel heard about various approaches – from giving individual assignments next to group work “so that students can’t escape”, to asking open questions at exams to check if students understand “the total picture”. The panel wondered whether teachers could benefit from sharing their best practices.

Both students and teachers mention that students ask many questions; they are intrinsically motivated to reach the course goals. A student said “If you don’t understand something in a group of 500 students, you don’t want to raise your hand. Now I do.” “In previous masters I wouldn’t have dared to send an email to a professor, now I’ve done so.”, another student said. Based on the discussions, the panel is confident that the teaching staff have a solid view of their student’s skills and knowledge, and that the learning outcomes are met.

The panel is impressed by the level of personal attention for each student, and the efforts that teachers make to tailor their courses to the needs of the group. However, when student numbers increase, this way of working may be challenging to keep up. Programme representatives and teaching staff stated that they believe this would still be possible, since the programme aims at roughly 20 students, not 100. Still, the panel would recommend that the programme makes (even) better use of the building blocks that are already there, such as focus groups and Toledo. The panel believes the programme is ready for a further formalisation of tasks, practices and strategies, as a next step in its development process.

2.4.5 Thesis and internship

The thesis and internship are an important and substantial part of the curriculum (25 ECTS). The panel learned that the internship takes about 5 months, with students visiting their internship company “almost every day”. Internship companies range from the university hospital to start-ups and large healthcare businesses. Students have an internship supervisor as well as an academic supervisor from KU Leuven, who s/he meets with on a regular basis.

The panel learned that the programme director is responsible for contacting internship companies, who are taken from his network as well as colleagues’ - the network is continuously expanded. The programme director informs companies about the details of the internship arrangement, which representatives of internship companies said are clear. Internship companies are then asked to come up with internship proposals. The programme director said that the companies are “quite experienced with providing internships, they

know what's suitable". The proposals are checked by the programme director for completeness and relevance, and are subsequently sent to all students who can select their "top three". Although not actively promoted, students are allowed to come up with their own proposal for a topic.

The panel wondered why international students, who receive a scholarship, are not allowed to do an external internship. They are required to do a research project relevant to their home country instead; it was explained that this is due to the scholarship regulations. As the scholarship organisation may cease to exist, this may change in the (near) future.

The internship representatives described the way of working with the programme as "open and convenient". They explained that they are in touch with the programme at the very beginning of the process, when they are invited to come up with an internship proposal. The representatives that the panel talked to never had discussion on the scientific content of the assignment, but said to be aware of the importance of a good research question. At the end of the internship, the internship supervisor takes part in the student's final assessment.

The panel wondered whether the internship companies and other working field representatives were invited to give feedback to the programme. The panel learned that this is part of the COBRA-quality assurance cycle, and that this is scheduled for next year. The programme director told the panel that he has contacted internship companies afterwards "to check if they were happy" (the representatives that the panel talked to were not aware of this, but this may be because the programme director was in touch with other colleagues).

All internship representatives that the panel talked to were positive about the programme and its students. One representative said: "The big benefit is that students speak both languages [technical and medical]. They understand medical technology, they know how an MRI works." Another explained that many of his colleagues are technological experts who work in their field of expertise. "But to develop a product, you need a more general profile. This master's programme is an added value."

The panel wondered how the quality of the internship is monitored and controlled. The panel learned that the programme director is responsible for this. The academic supervisor or promotor is able to assess the quality as well, and the quality of the thesis is indeed another important indicator. The panel reviewed a sample of theses. The level is generally good; some theses are of a very high standard.

Several students and alumni underlined that they start an internship while they are already professional engineers, with a master's degree under their belt. Experiences may vary, but the panel got the impression that the balance between working, learning and doing research at an internship company is sometimes pressed.

The panel would encourage the programme to keep monitoring and evaluating internships on a structural basis, as they are such a crucial part of the curriculum and thus of the student's learning experience. The programme may deepen its reflection on how a successful internship could be defined, and think about ways to continuously improve the quality.

2.4.6 Quality assurance and programme committee

The panel is impressed by KU Leuven's COBRA-system³ for quality assurance. All interviewees mentioned the regular focus group meetings, that are carefully moderated by programme-independent quality assurance staff members. Students said to feel free to share their feedback, and a staff member remarked that student feedback was passed on in a respectful way. Students gave examples of how their feedback directly led to changes. The panel felt that teachers and management are genuinely open to receiving feedback: they want to offer the best possible programme.

³ COBRA stands for **cooperation, reflection and action**, with attention for **checks & balances**.

The programme has a programme committee (sometimes also referred to as education committee) that meets three times per year, consisting of all teachers and students of the programme. However, the panel learned that students are “not yet” invited to the meetings. The panel learned that this situation arose out of practical challenges during the global pandemic. The programme’s management is also wary of adding to the students’ already heavy work load. The programme management explained that students can have their say during the aforementioned focus group meetings, and all persons that the panel talked to confirmed that this works well. Nonetheless, the panel recommends that (some) students become active members of the programme committee, so that they not only identify issues for improvement but also contribute to formulating solutions. A well-functioning programme committee could be of great support to the programme director, who – the panel noted – bears much responsibility on his own.

3 Judgement

The panel unanimously considers the quality of the Master of Science in Innovative Health Technology to be sufficient, and advises NVAO to take a positive accreditation decision.

Even though the programme is only in its third year, the panel encountered a well-established programme, run by a highly motivated team and dedicated teaching staff. The panel felt that the programme representatives were open, honest and self-conscious, which shone through in both the self-assessment report and in the various meetings. The panel was taken by the enthusiasm and authenticity of all who are involved in the programme.

The panel was impressed by the confident choices that have been made, which give the programme a strong identity. The programme manages to marry healthcare, industry and technology. The programme has a clear vision on how students should be prepared for the profession, while providing room for students to pursue their individual interests and build on their academic backgrounds. The programme makes the most of the multidisciplinary and intercultural backgrounds of its students, by encouraging collaborative work and using a variety of assessment forms. Students are constantly challenged, in a good way. Students, alumni and representatives of the working field all confirm the added value of the programme.

The panel is aware that the programme is in a process of development. The panel sees many opportunities for further development, such as expanding the organisation, building the network of internship companies, and raising student numbers. It is in this spirit of development that the panel wants to offer a few recommendations:

1. Involve all stakeholders in the continuous evaluation of the programme. Since benchmarking is challenging for a programme as specific as this, the panel recommends collecting input from all stakeholders continuously. As the programme is specifically geared towards the healthcare industry, the panel believes it is crucial to keep the industry involved at all times. Students and alumni are other important stakeholders, whose involvement in the programme's evaluation could be deepened. In particular, the panel recommends giving students an active role in the programme committee.
2. Formalise tasks, best practices, processes, strategies and responsibilities. The panel sees that the programme and its teaching staff have developed many good practices, processes and strategies. The panel also noted that the programme director carries many responsibilities, ranging from teaching to student recruitment to coordination of the programme, and from students' scientific supervision to being the contact person for external stakeholders and alumni. The panel feels now is the time to start securing or formalising tasks, practices, processes and the like, and to reflect on the possibility of dividing responsibilities. Further professionalising the programme committee is an example of this.
3. Focus on student recruitment, and use formal and informal routes to boost the programme's marketing. The programme needs to increase its number of students, to improve its financial stability and strengthen the heterogeneity of its student body with the aim of further improving the programme's quality. The panel believes that the multidisciplinary and intercultural aspect is one of the programme's particular strengths. The panel supports every effort that KU Leuven could make to help the Master of Innovative Health Technology reach a broader audience.

4 Review process

The assessment was carried out in line with the 'Assessment framework programme accreditation customised to own conduct – June 2020', as ratified by the Flemish Government on 27 November 2020.

The panel prepared itself for the assessment on the basis of the self-assessment report submitted by the institution when applying for accreditation. Prior to the preparatory meeting of the panel, each panel member formulated initial impressions and questions were listed. During a preparatory online meeting on 17 April 2023, the panel discussed all information received in the application file and also prepared the dialogue with the programme (institution). Impressions and questions were updated before the first dialogue with the institution.

A site visit was planned on 21 April 2023, where the panel visited the campus in Leuven. Because of personal circumstances, one of the panel members was unfortunately unable to attend the site visit. By mutual agreement with the programme, this panel member's views and questions have been taken into account by the other panel members during the site visit. The panel member has read and approved the draft report, and has provided feedback. The panel's judgement is endorsed by all panel members.

During the dialogue the panel investigated the context of the programme and the institution and collected all required information to make a judgement on the quality of the programme. During a closed meeting of the panel on 21 April the panel discussed all information obtained and translated it into a holistic judgement. The panel took this conclusion in full independence.

All information obtained led to a draft assessment report that has been sent to all panel members. The feedback from the panel members has been processed. The assessment report adopted by the chairman was submitted to NVAO on 25 May 2023.

Annex 1: Administrative data regarding the institution and the programme

Institution	Katholieke Universiteit Leuven
Address, institution website	Oude Markt 13, 3000 Leuven www.kuleuven.be
Status institution	Statutory registered
Programme	Master of Science in Innovative Health Technology
Level and orientation	Master of Science
(Additional) title	MSc
(Parts of) field of study(s)	Industrial Sciences and Technology
Specialisations	-
Programme routes	-
Location where the programme is offered	Campus Group T, Andreas Vesaliusstraat 13, 3000 Leuven
Teaching language	English
Study load (in credits)	60
New training in Flanders	
Programme-specific learning outcomes	See Annex 2
Connecting options and potential further education	-

Annex 2: Programme-specific learning outcomes

- | | |
|----|--|
| 1. | MMK1: Scientific-disciplinary knowledge and comprehension in the field of Innovative Health Technology |
| 2. | MMK2: Gaining in-depth knowledge and comprehension in at least one of the following disciplines in Innovative Health Technology: electronic hardware design, mechanical design, information processing, software application design, biochemical engineering |
| 1. | MMI1: Problem analysis and solving |
| 2. | MMI2: Design and/or development |
| 3. | MMI3: Application-oriented research |
| 4. | MMI4: Ethical behaviour |
| 5. | MMI5: Entrepreneurship |
| 1. | MMP1: To make operational |
| 1. | MMG1: Information gathering and processing |
| 2. | MMG2: Communication with engineers and non-engineers |
| 3. | MMG3: Critical thinking |
| 4. | MMG4: Working in a team in different roles |
| 5. | MMG5: Professionalism |

Annex 3: Composition of the panel

The assessment was made by a panel of experts convened and appointed by the NVAO. The panel is composed as follows:

Johannes Jan Struijk (*chair*), Professor at the CardioTech Research Group at the Department of Health Science and Technology, Faculty of Medicine, Aalborg University Denmark.

Senne Gorris (*panel member*), ENT surgeon and Founder & CEO Hippo Dx;

Maarten Paulides (*panel member*), Full Professor and Chair of the Care & Cure research lab of the Electromagnetics group of Eindhoven University of Technology (TU/e); Scientific Director of the Center for Care & Cure Technology Eindhoven; (Honorary) Associate Professor in the Department of Radiotherapy at Erasmus University Medical Center, Rotterdam.

Lisa Ronsyn (*student panel member*), Student master Biochemistry and Biotechnology at Ghent University.

The panel was assisted by:

- **Lien Beyls**, policy advisor Flanders NVAO, process coordinator;
- **Eleonoor Tchernoff**, secretary.

All panel members and the process coordinator/secretary have signed NVAO's code of deontology.

Annex 4: Schedule of the site visit

21 April 2023 – NVAO committee MSc Innovative Health Technology

Time slot	Activity
8:00 – 8:15	Welcoming
8:15 – 9:30	Session 1: dialogue with programme management
9:30 – 10:00	Closed meeting of the panel
10:00 – 10:45	Session 2: dialogue with students
10:45 – 11:15	Closed meeting of the panel
11:15 – 12:15	Session 3: dialogue with teaching staff
12:15 – 13:15	Lunch + closed meeting of the panel

Time slot	Activity
13:15 – 14:15	Session 4: dialogue with representatives of the professional field + PhD-students + alumni
14:15 – 15:00	Closed meeting of the panel
15:00 – 15:15	Meeting with program director
15:15 – 15:30	Closed meeting of the panel
15:30 – 16:00	Closing dialogue with educational representatives
16:00 – 16:15	Closed meeting of the panel – practicalities

Annex 5: Overview of the material studied

Information file

- Self-assessment report – Initial Accreditation

Mandatory annexes to the information file

- n/a

Documents made available during or leading up to the dialogue

- Access to Toledo, KU Leuven's online education platform, containing course descriptions
- Six student theses and corresponding evaluation matrixes

Annex 6: List of abbreviations

ECTS	European Credit according to the European Credit Transfer and Accumulation System
NVAO	Accreditation Organisation of the Netherlands and Flanders (Nederlands-Vlaamse Accreditatieorganisatie)
MaNaMa	Master-after-master (master-na-master)
MM	The prefix MM in the abbreviations of the programme specific learning outcomes refers to the advanced master's level of the programme.

Colophon

MASTER OF SCIENCE IN INNOVATIVE HEALTH TECHNOLOGY
KATHOLIEKE UNIVERSITEIT LEUVEN (VL130928-23)
Conduct-tailored accreditation • Assessment report
25 May 2023
Composition: NVAO • Vlaanderen



Nederlands-Vlaamse Accreditatieorganisatie
Accreditation Organisation of the Netherlands and Flanders

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