MASTER OF SCIENCE IN INNOVATIVE HEALTH TECHNOLOGY

KATHOLIEKE UNIVERSITEIT LEUVEN

INITIAL ACCREDITATION • COMMITTEE REPORT

15 MARCH 2019

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1 Executive summary

The Master of Science in Innovative Health Technology is a selective advanced master's programme that gives students holding a master's degree in Engineering Technology or equivalent the opportunity to specialize in the domain of health care technologies. It is a 60 ECTS, full-time, English language programme. The 'Master's thesis & Internship' (25 ECTS) is the programme's capstone.

The committee finds the intended profile of the programme interesting and relevant. With its orientation on the application of new technologies in the domain of health care, its emphasis on communication and entrepreneurship, and its orientation towards the full development cycle of new technologies, the programme answers a clear need from the professional field and sparks the interest of potential future students. The stakeholders have been closely involved in the development of the programme. The profile has been translated into well-defined programme-specific learning outcomes. They are formulated at the required level (FQF 7) and are in line with discipline-specific learning outcomes.

The committee concludes that the teaching-learning environment enables the students to achieve the intended programme-specific learning outcomes. The curriculum is sound and coherent. It allows students to sufficiently develop the health-related knowledge and vocabulary that is required to be able to communicate with relevant stakeholders when developing, implementing and validating health technology. The committee strongly values the activating, international and multidisciplinary teaching-learning environment. Also, the programme deals adequately with the admission procedure and support of the diverse student group. The committee has ascertained that the quality and quantity of lecturers and the infrastructure are up to standard.

The concept of the 'Master thesis & Internship' is in line with the ambitions of the programme. The committee appreciates that students will be doing their internship in an actual hospital, research institute or company. It found the procedures that are in place for the screening of internship providers and thesis topics, and for the supervision of students during the internship, to be well thought through. The committee comes to the conclusion that the way in which the internship providers will be involved in selecting their candidates, is sufficient.

The committee is of the opinion that the programme has a solid assessment system. It adequately translates the Faculty's assessment policy into practice, which ensures assessment is valid, reliable and transparent. The committee highly appreciates the variety of assessment formats that is used, and the focus on formative assessment. This comprehensive approach allows the programme to assesses all its intended learning outcomes.

The assessment procedure of the 'Master thesis & Internship' is also solid. The committee welcomes that the internship process, the product (thesis) and presentation are all taken into account, with a transparent weighing of each component. The form- and content related criteria that constitute each of these three main categories are already clearly defined. The committee concludes that the presence of the same core jury members for all master students of the programme, allows for consistency in grading. This is all the more important, as students have diverging learning paths when they are performing their internship.

Nevertheless, the committee also identified some issues that require further follow-up. Although it received a clear view of the programme's defining features during the site visit, the information file could have described the programme's specific scope more comprehensively. The committee thus advises to further develop this description. Further benchmarking with comparable international programmes will benefit this process.

This activity should also include the development of a narrative on the specific scope of the master's thesis, compared to master theses at the initial master level. This will on the one hand allow for transparent communication to (future) students and other stakeholders. On the other hand, it will further support that the programme's specific focus and scope are sufficiently taken into consideration in the supervision and assessment of the thesis.

The committee recommends to carefully design the many interlinked courses of the first semester to safeguard the curriculum's coherence. Also, the programme should structurally monitor whether the ambitious programme is feasible in 60 ECTS, and whether the individual trajectories of the students, which vary considerably due to differences in internship contexts, all lead up to the envisioned learning outcomes. In addition, the committee advises to carefully check whether the planned setup of the curriculum allows students to develop the depth of health-related knowledge that is required to assume their envisioned roles as graduates. Moreover, the committee observed that the new programme has been composed very much with the KU Leuven student base in mind. It should be carefully monitored how students with a different background fit into the concept. Finally, the programme should look for other ways to guarantee the envisioned multidisciplinary teaching-learning environment in years when the composition of the student group is less heterogeneous than planned.

The committee concludes that these issues are in most part already firmly on the radar of the programme management and teaching staff. The committee trusts that the programme management and core staff will be capable of either addressing them before the start of the programme in 2020-2021, or carefully monitoring them after its actual start. The programme's experienced staff, its embeddedness in the (quality assurance) procedures of the Faculty of Engineering Technology, and the quality culture that was observed during the site visit, strengthen the committee in its opinion.

The planned investments are sufficient to create the programme and to be able to offer the complete educational route although individual tuitions are supposed to be sponsored in part by industry. The well-alignedness of the new programme with the Faculty's chosen focus on health engineering is an important guarantee for its future viability.

The Hague, 15 March 2019

On behalf of the expert committee convened to assess the Master of Science in Innovative Health Technology,

Prof. dr. Johannes Struijk
(committee chair)

Dr. Jetje De Groof
(secretary)

2 Description of the programme

2.1 Overview

Country	Flanders (Belgium)
Institution	KU Leuven
Programme	Master of Innovative Health Technology
Language of instruction	English
Level and orientation	Academic master
Number of credits	60
Location	Leuven
Study mode	Full-time
Domain of study	Industrial Sciences and Technology

2.2 Profile of the institution

The Catholic University of Leuven (KU Leuven) is a research-based university that has its main campus in Leuven. It has more than 58,000 students and counts almost 20,500 staff members. Education is organized in 15 faculties, that are divided into three groups: Humanities and Social Sciences; Science, Engineering and Technology; and Biomedical Sciences.

The Faculty of Engineering Technology, of which the new programme will become a part, is one of the youngest faculties at KU Leuven. In 2013, all programmes, staff and students integrated from their former University Colleges into the structures of KU Leuven. The Campus Group T, at which the programme will be offered, is situated in the centre of Leuven.

2.3 Profile of the programme

The proposed programme in Innovative Health Technology is a selective advanced master's programme that gives both Flemish and international students, holding a master's degree in Engineering Technology or equivalent, the opportunity to specialize in the domain of health care technologies. The programme's focus is on application, communication and entrepreneurship in the field of health care technology. It is a 60 ECTS, full-time, English language programme, which contains eight course modules. The 'Master's thesis & Internship' (25 ECTS) is the programme's capstone. The schematic overview of the programme can be found in Figure 1.

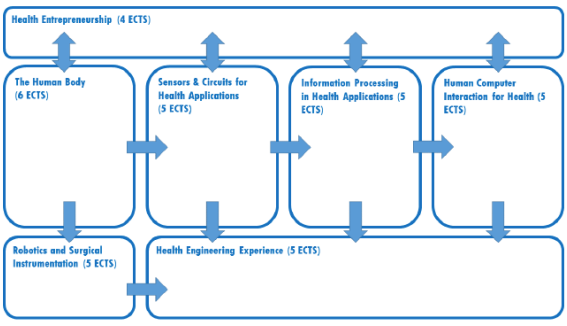

Figure 1. Schematic overview of the curriculum. Not included in the overview is the 'Master's thesis & internship'.

KU Leuven intends to offer the programme for the first time in the academic year 2020-2021. The proposed programme is a new programme for the institution and is the first Master of Science in Innovative Health Technology offered in Flanders.

The macro-efficiency test for a new master's programme was approved on 21 August 2018, after which the TNO application was submitted

3 Assessment per generic quality guarantee

3.1 Intended exit level (generic quality guarantee 1)

With respect to level, orientation and content, the intended exit level reflects the current requirements that have been set for the programme by the professional field and/or discipline from an international perspective.

Outline of findings

Aims and focus of the programme

The advanced master's programme in Innovative Health Technology (60 ECTS) offers students with a master's degree in Engineering Technology (or equivalent) the opportunity to specialize in the domain of health care technologies. As students entering the programme have already earned an initial master's degree, they are assumed to have a broad knowledge on different technologies and to have proven to be able to apply this knowledge to typical engineering problems. What the Innovative Health Technology programme adds to that, so the committee learned from the information file, is that students learn to design, develop and implement technological solutions specifically for the health sector.

The different groups of interviewees the committee talked to during the site visit consistently pointed at this orientation towards implementation as the key element setting the master's programme in Innovative Health Technology apart from similar programmes at KU Leuven or elsewhere in Flanders. The committee learned that the programme is to be situated in the typically Flemish context, where universities offer research-oriented engineering degrees on the one hand, and application-oriented engineering degrees on the other, the initial master's degree in Technology and the advanced master's degree in Innovative Health Technology being part of the latter group. Students graduating from the application-oriented engineering degrees typically have acquired application-oriented skills. The programme developers explained to the committee that the demand for students that are able to work at higher 'Technology Readiness Levels' (TRL) in the health care technology sector is high. Still, there currently is no master's programme in Flanders aimed at this specific target group in the domain of medical or health technologies.

The representatives of the institutional management explained that the initiation of the new master's programme on the one hand answers a real demand from the professional field and on the other hand, it is well aligned with the focus on health technology that is already present at the Faculty of Engineering Technology, in which the new programme will be embedded. It was emphasized that the initiation of the new master's programme is to be situated outside of the discussion on the extension of the initial master's programme to two years.

The committee learned that the programme puts emphasis on communication skills and entrepreneurship. It discussed at length and with different groups of interviewees how 'communication skills' are conceptualized in the programme. The image consistently put forward was that of engineers who are capable to go into direct dialogue with stakeholders from different backgrounds (technical, non-technical, medical, non-medical), allowing for root-problems to be detected, and for solutions to be developed and implemented, in close interaction with end users. In order for graduates to effectively manage this communication in the field of health care technology, a broad knowledge of the human body is required. Also, they need to be aware of the language and terminology used. The programme developers explained that the programme's scope is not limited to the medical sector and hospitals. It is to be situated in the broader framework of the health technology evolution, which includes technology for screening and monitoring outside the hospital or medical context.

The entrepreneurship focus allows students to be aware of all the steps and hurdles that need to be taken to go from an idea to a product that is ready to be put on the market. Another element adding to the specific flavour of the programme is its diverse and multidisciplinary student group, as it aims to attract students from different engineering backgrounds and nationalities.

Learning outcomes

The committee took note of the discipline-specific learning outcomes (DLR) of the programme. The information file explains how the DLR of the initial master's degrees in Engineering Technology provided a foundation for the DLR of the advanced master of Innovative Health Technology. The new programme being unique programme in Flanders allowed KU Leuven to define the DLR independently. The DLR focus on the domain of innovative health technologies and were reviewed by employer representatives and international experts within the Flemish Council of Universities and University Colleges (VLUHR).

The programme-specific learning outcomes (OLR) are in line with the DLR, as is illustrated in the tables in the annex of the information file. Another framework that was used to develop the OLR is 'The engineering benchmark statement' of the UK, which is used as a basis for the OLR's of all programmes at the Faculty. This taxonomy groups learning outcomes in four domains: Knowledge and Insight (MMK), Engineering skills (MMI), Practical Skills (MMP), and Generic Skills (MMG). The committee learned that the learning outcomes that are specific for the advanced master's programme, are mainly to be situated at the level of MMK (MMK1 and MMK 2).

Stakeholder involvement

The committee learned that the driving force behind the application of the new programmes have been actors in health, such as the university hospital, research institutes such as the nearby IMEC, and health technology companies with a clear focus on scientifically driven R&D. Representatives of these three types of organizations confirmed during the site visit their interest in the programme's graduates and stressed that the programme answers a clear need in industry. They explained that the graduates' applications skills, their multidisciplinary perspective, and their ability to navigate the complete development cycle of health technology applications, is what sets them apart from graduates of the initial master's programmes in Engineering Technology with an interest in health applications. Students of current initial master degrees in Engineering Technology seconded this, and expressed a clear interest in the new programme.

During the discussions, it became clear that both students and the professional field have been closely involved in the development of the programme. Future involvement of stakeholders will be ensured once the programme is established through the Programme Committee.

International benchmarking

The programme management explained that benchmarking the programme internationally was not an easy assignment, given that the distinction between the two types of engineering programmes in Flanders (see above) is not well known in the rest of Europe. This is why few reference points abroad were detected for the programme. This sparked the committee's question as to how the programme will make clear what exactly it is that students are applying for, considering the ambition to attract a combined Flemish and international student population. The programme management explained that the focus on communication and application skills should be central elements in explaining the difference. For its communication strategy, the programme will be able to rely on the Faculty and University, who have developed expertise in explaining the difference between the engineering programmes.

Considerations

The committee is of the opinion that the programme has a clear profile. With its focus on the application of new technologies in the domain of health technologies, its emphasis on communication and entrepreneurship, and its orientation towards the broad domain of healthcare, the programme answers a clear need from the professional field, and sparks the interest of potential future students. The committee needed the discussions with the different stakeholders during the site visit to get a sharp and comprehensive view on the programme's profile and focus, of which it had acquired an initial idea by means of the information file. The committee advises to further develop the programme's profile and defining features so that it can be transparently communicated to future students and other stakeholders involved. Further benchmarking of the programme with comparable international programmes, will benefit this process. The fact that all stakeholders were consistent in their description of the programme's aims and profile, gives the committee confidence that the programme will be able to realize this before the new programme starts, in the academic year 2020-2021. The fact that students and the professional field have been involved in the programme's development, and will continue to be so in the future, is a further guarantee.

The committee is of the opinion that this profile has been translated into well-defined learning outcomes. On the one hand, they fit into and cover the requirements of programmes at the master level (FQF 7); on the other hand, they are in line with the DSR. The committee appreciates that the programme's OLR's are ambitious, thus giving expression to the fact that it is an advanced master's programme. Yet it also asks to constantly monitor whether they are not overly ambitious and can be achieved in the framework of a 60 ECTS programme (see standard 2).

Conclusion

The committee assesses the generic quality guarantee 1 *Intended exit level* as satisfactory.

3.2 Teaching-learning environment (generic quality guarantee 2)

The teaching-learning environment enables the students to achieve the intended learning outcomes.

Outline of findings

Content and structure of the programme

The one-year programme (60 ECTS) consists of eight course units. Six regular courses focus on specific topics within Innovative Health Technology, one course consists of team-based project work ('Health Engineering Experience', 5 ECTS), and the 'Master's thesis & Internship' (25 ECTS) is the programme's capstone. All courses except 'Health Entrepreneurship' and the 'Master's thesis & Internship' are organized concurrently in the first semester. The committee took note of the scheme that shows that all of the programme's intended learning outcomes are addressed by the courses offered. The committee moreover consulted the schematic overview of the curriculum (see above, 2.3) and discussed its horizontal and vertical coherence. The programme management explained that arrows in the scheme do not imply that knowledge or skills from one course are a pre-requirement for another course. Instead they point at the interrelatedness of courses. Many topics that are central to the programme (e.g. privacy) will be touched upon in several courses, which means most courses are interrelated. The programme management explained that it is aware that the coherence between all the courses offered in the first semester will need to be given extra attention when further developing the programme.

The committee explored with different groups of interviewees how the programme offers students the opportunity to establish a connection with the complicated environment of the medical sector. The underlying question was whether the link with the hospital is sufficiently strong in the programme to ensure the establishment of this connection. The programme management emphasized that the focus of the programme is on the broad field of health care, and not limited to medical applications only (see standard 1). The committee learned that the 'The Human Body' course (6 ECTS), which is developed and taught by staff from the university hospital, provides the students with the required biological and medical basics. In this course, topics from anatomy, physiology, tissue engineering and homeostasis, and pathology will be presented. The human body is treated as a system that generates signals related to the functioning of vital processes. Students are offered an insight in how technology can help in the different phases of the recognition of a problem, the diagnosis and the monitoring of treatment. It also helps them get acquainted with the specific terminology. The programme developers explained that students will also make study visits to the hospital during the course to be introduced to hospital technology. Moreover, they will be informed on medical study designs, where the ambition is that students are able to critically consult the scientific knowledge base.

The programme developers confirmed that this content will fit into a 6 ECTS-course. They also explained that the 'The Human Body' course is not the only means for the students to get acquainted with the specifics of the health sector. Guest lecturers from the field will be invited and relevant cases will be used in the courses. Also, and importantly, the basic methodology followed in the programme is user-centred design, which is driven by the early focus on the end-user and empirical measurement. In the 'Health Engineering Experience' course, teams of four to five students identify a research topic on the basis of communication with surgeons. The 'Human Computer Interaction' course also pushes the students to communicate with stakeholders, as does the 'Master thesis & Internship'. This helps to further deepen the students' insight in the health sector. The lecturers explained how this practice actually surpasses the ambition expressed in the intended learning outcomes that students correctly employ the scientific and technological vocabulary typical for the domain of Innovative Health Technology: in the programme, students are continuously in direct contact with end users.

The committee also discussed the content of the 'Health Entrepreneurship' course and learned that all the aspects of health economy will be revisited in it. Students are confronted with all the steps and hurdles that have to be taken to go from an idea to a market-ready product. This involves topics such as regulations and standards, approvals, risk analysis, ethics, business models and reimbursement policies. To navigate the breadth of these topics, guest lecturers will be invited.

The committee explored whether this ambitious programme is feasible in the context of a 60 ECTS programme. It learned that the selection upon entry (see below) should ensure that only students are accepted that can perform the expected learning curve in one year. The teaching staff explained that they have ample experience in assigning a certain study load to a course. In addition, the feasibility of courses is systematically measured at KU Leuven. Finally, the committee learned from the students that the open-door policy on the campus means that problems can be easily signalled. Students expressed their appreciation for the fact that their input is taken into account.

Master's thesis and internship

The 'Master's thesis & Internship' (25 EC) provides the ultimate proof that students have acquired the competences of the master's programme. The committee learned from the information file that topics are defined in consultation with the internship providers, which are technological companies active in the health care domain, research institutes working on novel health tech solutions, or research departments embedded in a university hospital.

The committee discussed with different groups of interviewees what they consider to be the specific scope of the master's thesis and internship when compared to that of the initial master's programme in Engineering Technology. It learned that students at the initial master level receive the specifications, then focus on developing the required technology (hardware or software), with the writing of a master thesis and a concept prototype as the outcome. In the advanced master, it is expected that students run through the entire track of defining a problem, talking to stakeholders, finding a solution and implementing the solution. Also, only topics that allow students to apply their acquired knowledge from the health care domain are taken into consideration. Another important difference that was brought to the attention of the committee is that students will be spending four to five months embedded in the internship organization, whereas the majority of initial master students perform their internship within a research group at the university.

The committee discussed how it will be ensured that the students, who spend a considerable portion of the programme in differing teaching-learning environments (i.e. the internship organization), still achieve the same learning outcomes. The committee learned that several procedures are in place to ensure the quality of the internship on the one hand, and to monitor its scope on the other. All potential internship providers are screened by the programme management for the potential for students to perform research-driven development. Before thesis topics are put online for students to choose from, they have been checked to ensure that they are in line with the required criteria. Supervision during the internship is carried out by a supervisor from the Faculty and a co-supervisor who is employed by the internship provider. Regular contact meetings between supervisor and co-supervisor are foreseen. The committee learned that as students come back to the campus regularly, progress is monitored every one to two weeks. Students are expected to present their intermediate results to each other, which allows the programme to keep its finger on the pulse of what is happening during the internship. In response to its question whether students performing their internship in a company will have enough opportunity to establish a connection to the medical sector, the committee was reminded that the requirement is for students to be in contact with stakeholders in the broad context of health technology. These stakeholders can be patients or doctors but may well also be other types of end users.

The programme management explained feeling confident about its ability to provide enough internships for all incoming students. This was confirmed by the representatives of the professional field, who mentioned that the reasonable duration of the internship and the fact that the students have already obtained an initial master's degree in Engineering Technology, makes them interesting candidates for internships.

Admission

The programme can only be entered by students that already hold a master's degree in Engineering Technology or equivalent. There is no specific requirement in the major discipline of the already obtained master's degree. The admission is based on a selection procedure, where candidates submit a CV, their academic study results, a motivation letter and a proof of English proficiency. International students first need to pass the administrative screening procedure of KU Leuven's Admission cell. After a screening of the documents, the candidates will be interviewed by a small committee, consisting of at least one key staff of the programme and one external professional, e.g. from one of the companies offering internships. During the standardized interview, the candidate's motivation, problem-solving abilities, implementation skills, intellectual flexibility, and analytical skills will be considered.

The programme management explained that the selection procedure ensures that only students are accepted that have the required level and skills to be able to finish the study in one year. The committee learned that the starting point for drawing up the entry requirements is the knowledge base that the students acquire in the Engineering Technology bachelor's programme at KU Leuven, and the broad engineering skills they subsequently develop at the master level. These specific sets of knowledge and skills will also be looked at in the selection process of students that have done their bachelor's and master's education at another university in Flanders or abroad. The teaching staff will moreover provide extra material for each course for students to study independently, should there be any deficiencies.

The committee discussed how the selection process will be used to steer towards attracting a diverse student group, both from the perspective of nationality and the subdiscipline of the students' initial engineering degree. This question is relevant, considering the fact that this diversity is a key element in the programme's profile. The programme management was candid about the fact that they will have to learn how to optimally approach this in the first years after having started the programme. They explained that motivation and implementation skills of students are the primary concern, which will need to be balanced with the ambition to have a multidisciplinary student group. On the topic of attracting high-quality international students, the committee learned that the Faculty has extensive experience in attracting students from China.

Involvement of internship providers in the admission and selection of students

The committee learned from the information file that internship providers must pay part of the students' tuition fee (€4500 of the €6000 fee). It is also mentioned that the internship providers will be involved in the selection of candidates. This sparked the committee's question how the programme will ensure that the students' rights to a fair and transparent selection and admission will be balanced with the internship providers' expectations after having paid a considerable amount of money. The representatives from the institutional management emphasized that only one representative from the professional field will be present in the admission committee, who will help the other members to assess whether the applicant has the required application skills. The programme management confirmed that companies at this stage will not be able to preselect their own trainee. The involvement of the internship providers in the selection of their candidate starts only after the students have been admitted. The programme draws up a list of internship providers and topics, from which students will have to pick a top 3. It is at this stage that internship providers have a say in selecting their trainees and may reject candidates that the providers find not suited for the specific projects. The institutional and programme management explained that implementing this procedure will be a learning process. They mentioned that the model is applied already in the Faculty's advanced master's programme of Industrial management, to the satisfaction of all partners involved. Also, KU Leuven and the Faculty have strict quality procedures in place to safeguard the students' rights.

The committee questioned the interested companies about their willingness to pay the required fee. The representatives of the larger companies responded that they often already pay and invest in attracting (foreign) trainees. They explained that the pre-selection of the students of the new master's improves the chance of a positive outcome of the internship. Also, paying thee fee should result in a high motivation of the companies to support and follow up on the students and provide them with relevant projects to work on.

The programme management told the committee that financial caution will be needed in the initial stages of the programme, which means that initially, only organizations that pay the fee will be allowed to receive trainees. If the programme is successful, attracting 25-30 students yearly, this would provide the financial room to explore alternative schemes.

Possible routes could be pooling the fees to invest in internships for small start-ups or for scholarships for candidates from developing countries.

Educational concept

The committee learned that the advanced master's programme follows the Faculty's educational concept, which aims to offer application-oriented academic programmes in engineering in close collaboration with relevant stakeholders. Initiative taking, creativity and entrepreneurship are stimulated, and technological innovation is coupled with the realization of concrete solutions.

In the new programme, so the committee gathered from the information file, most courses will pay attention to both knowledge transfer and acquiring practical skills. The committee saw this confirmed in the ECTS-files. The transfer of knowledge will happen primarily by means of lectures. For most courses, some lectures are given by guest lecturers, the exception being the course Health Entrepreneurship, where this is true for the majority of lectures. The committee learned that the Faculty stimulates innovative setups to ensure that lectures are geared towards interaction and active learning. The teaching staff gave several examples of how they will draw on their experience with flipping the classroom or MOOC's to develop the courses in the new master's programme. They explained that the small student group of the programme will allow for a more interactive setting than is the case in the initial master's programme.

The committee learned that the majority of the courses contain hands-on activities that allow students to improve their skills. These activities include lab experiments, design challenges, implementation tasks, and testing. Some of the problems the students are confronted with, have clear boundaries and restrictions. Yet students sometimes also deal with more open-ended problems. In the lab sessions students learn in a hands-on way to work with a specific technology, and develop skills related to design, implementation, testing and evaluation. Students are expected to take initiative and work independently or with peers, under the guidance of a professor or a teaching assistant.

Teamwork is important in the programme and it is the ambition to set up multidisciplinary teams. The committee discussed with the teaching staff whether this setup does not stimulate students to only take up tasks they are good at already. The teaching staff explained that the Faculty's policy is that students are indeed allowed to engage more actively in the activities they are most interested in. However, during the assessment, all students need to have reached a certain level in all components of the group assignment, and will be tested on that. The committee learned that students are informed well in advance of this approach.

Staff

The programme's key teaching staff are all affiliated to the bachelor's and master's programmes at Group T's Campus of the Faculty of Engineering Technology, and are involved in academic research. The programme is embedded in the research activities of Group T, where the choice has been made to focus on health-oriented research. This means that the key teaching staff is active in this field and has the required expertise to teach and coordinate the courses. For some of the courses teaching staff from other faculties will be involved. This applies most notably for the 'The Human Body' course, which the Faculty of Medicine coordinates. In the 'Health Entrepreneurship', a wide variety of experts (guest professors) will share their knowledge. Teaching activities will also be carried out by teaching assistants, under supervision of the professor responsible for the course.

The committee learned that most of the courses are new to the university, with the exception of the course 'Robotics and Surgical Instrumentation'. All key teaching staff have already expressed their commitment to teach and/or coordinate the courses that are assigned to them.

The Faculty moreover foresees two new vacancies for professorships in the domain of innovative health technology, who will also be involved in the new programme. The extra funding coming from the tuition fees of the advanced master's programme will be used to hire a post-doc who will be involved in the coordination of the program, in the organization of the intake procedure, and in networking activities. Also, a teaching assistant will be hired to take up a role in the lab assignments. The committee was explained that existing and new teaching staff can make use of the didactical support offered by KU Leuven, both in the form of courses and online support and materials.

The committee learned that although developing a new programme requires an extra time investment for the involved staff, they are all keen to participate in a programme with motivated students and a direct link to their research and industry. Most of them are already teaching at the bachelor or master level and will only be taking up one extra course.

Environment

Most educational activities will take place on Campus Group T, which is situated in Leuven. This campus currently hosts more than 2000 students following a bachelor's or master's program in Engineering Technology. It offers classrooms, facilities for printing, discussion, individual study spaces, lockers and power outlets for laptops. Students can make use of both the university's physical facilities like libraries, student restaurants and learning spaces, and digital platforms such as study platforms (TOLEDO) and online libraries. The campus offers on the one hand a variety of infrastructure to experiment with hardware and software applications. On the other hand, some lab sessions require very specific and expensive equipment. Organizations like the university hospital and IMEC have already shown their commitment to allow the new programme's students to make use of their facilities when needed.

Budget

KU Leuven has made the engagement to make its existing infrastructure, instructional equipment, computing facilities, databases and rooms for practical sessions available for the new programme. The programme initially aims for 15 to 30 students, which will not lay an extra burden on the infrastructure. The key staff to be deployed are already KU Leuven staff, which means their costs are already covered by the university. Starting from an enrolment fee of €6000 and the assumption that 20 students enrol, the total yearly income would be €120.000. This budget would be spent on a part-time post-doc, a part-time teaching assistant, KU Leuven overhead costs, campus overhead cost, material costs and costs related to guest professors.

Considerations

The committee concludes that the curriculum enables students to acquire the intended learning outcomes. The programme's learning outcomes have been translated into concrete learning goals for each course module and the curriculum is sound and coherent. The committee asks the programme to carefully monitor whether courses are developed in such a way that too much overlap between courses is avoided, yet also ensuring that students don't experience any disturbing knowledge gaps. This is most urgent for the many courses that are scheduled concurrently in the first semester. Also, the committee recommends the programme to structurally check whether the ambitious programme is feasible in the context of a one-year 60 ECTS programme. In this process, special attention must be given to the question whether the individual trajectories of the students, that vary strongly due to the variance in internship contexts, allow students to achieve the envisioned learning outcomes.

The committee assessed whether students are given enough opportunity in the curriculum to become acquainted with the complex medical field. It comes to the conclusion that students develop the required health-related knowledge and vocabulary to be able to communicate with end users in order to develop and validate health technology, which is the aim of the programme. This is achieved by means of 'The Human Body' course, by using relevant cases in other courses, by inviting guest speakers from the field, and by pushing students to communicate with stakeholders of health technology throughout the programme. The committee is of the opinion that an important quality guarantee for the medical component is that staff from the medical Faculty will be coordinating the 'The Human Body' course. Also, it noted that representatives of the professional field confirmed that the curriculum contains all required topics. Nevertheless, the committee advises to carefully and continuously monitor whether the planned setup allows students to truly develop the depth of knowledge that is required to assume their envisioned roles as graduates (see standard 1). One of the elements that will also require attention is whether the 'The Human Body' course will be able to realize its ambitious goals in the framework of a 6 ECTS course.

The concept of the 'Master thesis & Internship' is in line with the ambitions of the programme. The focus on the complete development cycle and on health technology was put forward consistently by all groups of interviewees. Nevertheless, the narrative on the specific scope of the master's thesis, compared to master's theses at the initial master level, should be further developed. This will on the one hand allow for transparent communication to (future) students and other stakeholders. On the other hand, it will further support that the programme's specific focus and scope are sufficiently taken into consideration in the supervision and assessment of the thesis.

The committee highly values that students will be doing their internship in an actual hospital, research institute or company, thus already providing an orientation for students on the professional field. It found the procedures that are in place for the screening of internship providers and thesis topics, and for the supervision of students during the internship, to be well thought through.

The committee strongly values the activating teaching-learning environment that is envisioned. It appreciates the programme's ambition to create an international and multidisciplinary environment. It concludes that the programme deals adequately with the admission procedure and the support in the programme of the diverse student group. The committee supports that the programme allows students in this interdisciplinary environment to engage more in activities they are most interested in, as long as they achieve the minimal learning goals of the course. Nevertheless, the committee also identified a few points that require follow-up. First, the new programme has been composed very much with the KU Leuven student base in mind. It should be carefully monitored how students with a different background fit into the concept. Secondly, the programme should look for other ways to guarantee the envisioned multidisciplinary teaching-learning environment, when the composition of the student group is less heterogeneous than expected.

The committee has ascertained that quality and quantity of lecturers are up to standard. The teaching staff will be part of a solid team with a shared vision and are embedded in the Faculty and university. The planned investments are sufficient to create the programme and to be able to offer the complete educational route. The well-alignedness of the new programme with the Faculty's chosen focus on health engineering is an important guarantee for its future viability. Also the infrastructure is up to standard.

The committee talked at length about the independence issue that springs from the requirement that internship providers pay part of the fee and are involved in the admission of candidates. The committee comes to the conclusion that the way in which the internship providers will be involved, is sufficient at this point in time.

It supports that in a first phase, only organisations and companies paying the €4500 euros in fees will be able to receive a student for an internship. The committee notes however that the fee provides an extra barrier for smaller and younger companies to engage in internships. The committee therefore welcomes that other schemes will be explored should the programme be successful.

The committee took note that the issues the committee raises are in most part already firmly on the radar of the programme. The committee trusts that the programme management and core staff will be capable of either addressing them before the start of the programme in 2020-2021, or carefully monitoring them after its actual start. The programme's experienced staff, its embeddedness in the (quality assurance) procedures of the Faculty of Engineering Technology, and the quality culture that was observed during the site visit, strengthen the committee in its opinion.

Conclusion
The committee assesses the generic quality guarantee 2 *Teaching-learning environment* as satisfactory.

3.3 Exit level to be achieved (generic quality guarantee 3)

The programme has an adequate assessment, testing and examination system in place to ascertain whether the intended learning outcomes are being achieved.

Outline of findings
From the information file the committee learned that the Faculty of Engineering Technology's assessment policy is based on nine basic principles that allow for the assessment to be valid, reliable and transparent. They include that evaluation activities must be adapted to the learning outcomes of the course modules. Each programme deploys a mix of assessment formats. Written and oral formats are combined as much as possible. In addition, there is a strong focus on the assessment of practical skills. Finally, formative assessment is given an important place, as assessment should support the learning process. The list of assessment formats and the ECTS-files provided in the information file confirmed that these principles will also be applied to the Innovative Health Technology master's programme. Assessment formats include lab reports, class participation, papers, presentations, process evaluation, portfolio evaluation, product evaluation, and peer assessment. The committee learned that project work is central to the programme, which means students have to work in teams, report in oral and written form, and have to express peer critique in a balanced way. Consequently, these typically twenty-first century skills are assessed in many of the courses.

The 'Regulations on Education and Examinations' of KU Leuven and the Faculty of Engineering Technology will also be applicable to students following the master's programme of Innovative Health Technology. This means that the communication on assessment is done via ECTS course descriptions, the online study platform TOLEDO and by the course coordinators. Modes and modalities of assessment will be determined before the start of the academic year and the study load of students is monitored. Ombuds services are provided on campus as an intermediary between students and professors. The students from current master's programmes expressed their appreciation for the transparent way in which this communication is handled.

The information file describes how the 'Master Thesis & Internship' is evaluated on the basis of the process (40%), the thesis submitted by the student (30%) and a presentation and defence before a jury (30%). Each of these three categories is assessed on the basis of criteria that regard form as well as content. In the ECTS-files, the committee observed that these criteria are already clearly described.

Final grades will be assigned by a jury, consisting of a supervisor of the Engineering Technology Faculty, a co-supervisor employed by the internship provider, and at least two assessors that were not involved in the process. During the site visit, the committee learned that the evaluation form used for all the Faculty's capstone projects will be used in this programme as well. The teaching staff explained that the supervisor and co-supervisor are required to do their assessment separately and individually before the final assessment, after which agreement has to be reached on the final grade. The committee learned the same core of staff members act as jury-members for the presentations of all master students. In this way, consistency in grading and in determining whether each individual student has met the required exit level, is ensured.

Considerations
The committee is of the opinion that the programme has a solid assessment system. It applies the Faculty's assessment policy and can rely on the well-established framework that is already in place to ensure that the assessment is valid, reliable and transparent. The committee concludes that the Faculty's policy is adequately translated into practice in the proposed new programme. It highly appreciates the variety of assessment formats used, and on formative assessment, which is in line with the programme's profile (standard 1) and didactical approach (standard 2). This comprehensive assessment approach allows the programme to assess all the intended learning outcomes, and to determine whether students have acquired the required level, both regarding their knowledge and their technical and twenty-first century skills.

The assessment procedure of the 'Master thesis & Internship' is also solid. The committee welcomes that the internship process, the product (thesis) and presentation are all taken into account, with a transparent weighing of each component. The form- and content related criteria that constitute each of these three main categories are already clearly defined, as are the roles of the supervisor and co-supervisor. The committee concludes that the presence of the same core jury members for all master students, allows for consistency in grading. This is all the more important, as students have diverging learning paths and contexts when they are performing their internship.

The committee asks to carefully monitor that the programme's specific focus and scope are sufficiently taken into consideration in the assessment of the 'Master thesis & Internship'. It recommends taking the assessment criteria through a further development round, after the narrative on the specific scope of the master's thesis has been finalized (see standard 2).

Conclusion
The committee assesses the generic quality guarantee 3 *Exit level to be achieved* as satisfactory.

4 Discipline-specific learning outcomes

The discipline-specific learning outcomes (DLR) were developed by the programme management, as the Master of Innovative Health Technology is a unique programme in Flanders. They have been reviewed by the Flemish Council of Universities and University Colleges (VLUHR) and approved by the same council on 29 June 2018.

The programme-specific learning outcomes (OLR) used the DLR as a starting point. The programme management drafted the programme-specific learning outcomes for this programme. These learning outcomes have been drawn up especially for this programme, since no discipline-specific learning outcomes for programmes like this one were available in Flanders.

As the committee has established, the programme-specific learning outcomes of the Master of Science in Innovative Health Technology are in line with the Flemish Qualifications Framework (FQF). The discipline-specific learning outcomes conform to the level 7 descriptors of the FQF and, therefore, meet the requirements of master's programmes.

The committee accepts the programme-specific learning outcomes of this programme and regards these as being a sound representation of the programme's objectives. The committee advises NVAO to validate the programme's discipline-specific learning outcomes.

5 Assessment procedure

5.1 The procedure

NVAO received a request for an initial accreditation procedure regarding the proposed Master of Science in Innovative Health Technology. The request was submitted by KU Leuven on 25 September 2018.

NVAO has convened a committee of experts. The committee consisted of:

1. Prof. dr. Johannes Struijk (chair), Cardiotechnology Research Group, Department of Health Science and Technology, Aalborg University, Denmark;
2. dr. Daisy van der Schaft, Manager Team ESA Biomedical Engineering, Eindhoven University of Technology, The Netherlands;
3. dr. Bruno Van Den Bossche, CTO Televic, Belgium;
4. Nele Vandemaele (student), Master's student in Medicine, Ghent University, Belgium.

On behalf of the NVAO, Dr. Dagmar Provijn, NVAO policy advisors, was responsible for the process-coordination. Dr. Jetje De Groof, secretary, drafted the experts' report.

The committee's composition reflects the expertise deemed necessary by NVAO (please refer to Annex 3: Composition of the committee). All the committee members as well as the secretary have signed a statement of independence and confidentiality.

The committee based its assessment on the generic quality guarantees and criteria described in the NVAO Assessment framework for the initial accreditation of higher education programmes in Flanders 2015-2021, dated 28 May 2015.

Regarding the procedure followed, the committee members studied the documents (please refer to Annex 5: Documents reviewed) with regard to the proposed programme. Their first impressions were sent to the secretary of NVAO, who listed these remarks and questions, to be clarified during the site visit.

Based on their preliminary findings, the committee held a preparatory meeting on 13 February 2019. During this meeting, the committee discussed its findings and listed a number of questions to be put to the programme's representatives during the site visit. The site visit took place on 14 February 2019 at Campus T of KU Leuven (please refer to Annex 4: Schedule of the site visit).

Immediately after the site visit, the committee shared its assessments for the generic quality guarantees of the NVAO Assessment framework. These assessments were based on the findings during the site visit, building upon the review of the programme documents.

Following the visit, the secretary drew up a draft report and sent this to the committee members. The committee members forwarded their comments and amendments. These comments have been included in the text by the secretary, and the report was finalised on 15 March 2019.

5.2 Committee report

The first chapter of this report is the executive summary of the report.

The second chapter gives a brief description of the programme including its position within KU Leuven and within the Flanders higher education system.

The committee presented its assessments in the third chapter. The programme has been assessed using the generic quality guarantees in the NVAO Assessment framework for the initial accreditation of higher education programmes in Flanders. For each of the generic quality guarantees the committee presented an outline of their findings, considerations and a conclusion.

The *outline of the findings* are the objective facts as found by the committee in the programme documents, in the additional documents and during the site visit. The committee's *considerations* are the committee's evaluations with regard to these findings. The *considerations* presented by the committee logically lead to a concluding assessment.

The committee concludes the report with a table containing an overview of their assessments per generic quality guarantee.

6 Overview of the assessments

The committee presents their assessments per generic quality guarantee, as outlined in chapter 3, in the following table.

Generic quality guarantee	Assessment
1 Intended exit level	Satisfactory
2 Teaching-learning environment	Satisfactory
3 Exit level to be achieved	Satisfactory
Programme as a whole	Satisfactory

Annex 1: General information institution and programme

Name, address, telephone number, e-mail address, website institution	Katholieke Universiteit Leuven Oude Markt 13 B-3000 LEUVEN +32 16 32 37 21 onderwijsbeleid@kuleuven.be www.kuleuven.be
Status institution	Ambtshalve geregistreerd
Name association	Associatie KU Leuven
Name, function, telephone, e-mail adddress of contact person	Prof. Luc Geurts, Programme Director Master of Innovative Health Technology
Name programme (degree, qualifications of the degree, specification of the degree)	Master of Science in Innovative Health Technology
Level and orientation	Academic master (Master after Master)
Title that holders of the degree earned from this programme can place with their name	-
(Part of a) Field of study, fields of study in which the programme is classified	Industrial Sciences and Technology
The ISCED name of the field of study in which the programme is classified	07 Engineering, manufacturing and construction; 091 Health; 0914 Medical diagnostic and treatment technology
Corresponding programme(s) (Flanders if any, or neighbouring countries)	No corresponding programmes
Languages used to teach	English
Location in which the programme is offered	Leuven
Length of the programme expressed in credits	60
New programme in Flanders	Yes
The post-graduate study opportunities and the possible post-graduate courses (bachelor)/ The required previous qualifications and admission requirements (master)	Admission of students is based on a selection procedure. Candidate students submit an application containing their cv, academic study results, a motivation letter, and a proof of proficiency in English.

International students first need to pass the administrative screening procedure of KU Leuven's Admissions cell. The diploma requirement is a master's degree in engineering technology or equivalent. Candidates should have obtained their degree with solid study results, and from a university with a sound reputation. They meet the universities entry requirements in terms of English proficiency: a TOEFL score of minimum TOEFL 550 (paper-based), 213 (computer-based) or 79/80 (internet-based), or an IELTS-score of 6.5. They should have a clear motivation of professional goals in the domain of innovative health technologies and be able to motivate why the program will help to achieve these goals. After a screening based on the submitted documents, the candidates will be interviewed by a small committee consisting of at least one key player of the program, and one external professional, e.g. from a company offering internships. The aim of the standardized interview is to assess the candidate's motivation, problem-solving abilities, implementation skills, intellectual flexibility and analytical skills, and her or his assimilation of new ideas and information.

Annex 2: Discipline and Programme-specific learning outcomes

Discipline-specific learning outcomes

1. Having advanced application oriented knowledge, understanding and skills in the domain of innovative health technology, with special attention to novel developments of both technology and the techniques.
2. Having advanced application oriented understanding of advanced theories and methods for modelling processes and systems, and applying those to solve problems within the domain of innovative health technology.
3. Independently integrating and deepening previously acquired knowledge independently in order to realize innovative practical implementations, including knowledge of the limitations of own competences.
4. Formulating, analyzing and solving complex problems within the domain of innovative health technology, if needed reducing those to manageable partial problems, and designing implementation oriented solutions keeping the concrete context in mind.
5. Independently conceiving, planning and executing an engineering project at the level of a junior research professional. Carrying out literature research, interpreting results according to scientific standards and from the perspective of possible applications.
6. Starting from the acquired understanding within the discipline and across disciplines, selecting, adapting or developing, and adequately applying advanced research, design or problem solving methods, and processing the results scientifically; substantiating the choices made based on both application oriented understanding and the demands of the business context.
7. Acting with a research attitude, which includes creativity, precision, critical reflection, curiosity, and justifying choices made based on application oriented arguments.
8. Designing innovation and operation oriented systems, products, services and processes, interpolating and experimenting in the business context.
9. Mastering system complexity using quantitative models. Having sufficient knowledge, understanding and experience with current practices in order to reflect critically on obtained results.
10. Acting with an engineering attitude within a mainly discipline specific context: result oriented, attention to planning and to technical, economical and societal constraints like sustainability, estimation of risks and feasibility of the proposed approach or solution, obtaining effective solutions, thinking innovatively.

Programme specific learning outcomes

MMK1 Scientific-disciplinary knowledge and comprehension in the field of Innovative Health Technology

1. Students have scientific-disciplinary knowledge and comprehension on the structure and the functions of the human body, on the processes that take place in the body, how they can be monitored with technological tools, how actionable information can be retrieved from these data, how this information can be used to inform scientists, caregivers and patients; Students have scientific-disciplinary knowledge and comprehension on the design of robotics and surgical instrumentation.

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

2. Students further increase their technological expertise by specific application of this expertise in the field of Innovative Health Technology, taking into account the constraints that are typical to this field.

MMI1 Problem analysis and solving

1. Students adopt a systematic or innovative approach, using their analytical skills, when solving complex practical engineering problems in the domain of Innovative Health Technology.

MMI2 Design and/or development

2. Students can design, implement and test an Innovative Health Technology product or service, keeping the concrete context in mind.

MMI3 Application-oriented research

3. Students can formulate a research problem in the domain of Innovative Health Technology, and choose and use the appropriate methodologies to carry out the necessary experiments, including the critical interpretation of the results.

MI4 Ethical behavior

4. Students know how to deal with ethical issues in the domain of Innovative Health Technology, and show ethical behavior when acting as a professional in this domain.

MMI5 Entrepreneurship

5. Students show an entrepreneurial attitude and are aware of the hurdles that need to be overcome when bringing an innovative idea in the domain of Innovative Health Technology to the market.

MMP1 To make operational

1. Students can perform all acts necessary to make systems, products, devices, equipment, and test installations in the domain of Innovative Health Technology operational.

MMG1 Information gathering and processing

1. Students can find, evaluate and process scientific and technological information in the domain of Innovative Health Technology.

MMG2 Communication with engineers and non-engineers

2. Students correctly employ the scientific and technological vocabulary typical for the domain of Innovative Health Technology.

MMG3 Critical thinking

3. Students reflect critically on their choices, actions and obtained results, and can justify the choices made.

MMG4 Working in a team in different roles

4. Students function as a loyal member within an interdisciplinary team, act independently and in a responsible way, helping the team to achieve its goals.

MMG5 Professionalism

5. Students work accurately, show curiosity and perseverance, respect deadlines and commitments, are aware of the limitations of own competences.

Annex 3: Composition of the committee

The composition of the committee that assessed the quality of the Master of Science in Innovative Health Technology of KU Leuven was as follows:

- Prof. dr. Johannes Struijk (*chair*);
- dr. Daisy van der Schaft;
- dr. Bruno Van Den Bossche;
- Nele Vandemaele (*student*).

Prof. dr. Johannes (Hans) Struijk *(chair)* obtained his PhD at the Biomedical Engineering Division of the University of Twente in 1992. His thesis was on 'Immediate Effects of Spinal Cord Stimulation'. In 1998, he was Visiting Professor at Case Western Reserve University, Cleveland (USA). Subsequently, he was Director of Studies, Medicine and Technology, Head of Center for Sensory-Motor Interaction/Motor Control and Neurorehabilitation Technology, and since 2009 (Associate) Professor at the Medical Informatics Group, all at the Department of Health Science and Technology at the Faculty of Medicine at Aalborg University. He also was Chairman and member of several PhD evaluation committees and was member of the evaluation committee for the wo-master programmes in Biomedical Engineering in the Netherlands.

Dr. Daisy van der Schaft studied (Biological) Health Sciences at the University of Maastricht, the Netherlands (MSc 1998). In 2002 she obtained her PhD degree at the University of Maastricht on 'the development of angiogenesis inhibitors for cancer therapy'. Subsequently, she visited the laboratory of Prof. dr. M.J.C. Hendrix at the University of Iowa as a post-doc to study vasculogenic mimicry in tumors, which was continued at the University of Maastricht. In 2007 she joined the group of Prof. dr. K. Nicolay at Eindhoven University of Technology (TU/e) and shifted her research focus to molecular imaging using MRI. From 2008-2013 she worked as assistant professor at the research group Soft Tissue Biomechanics & Engineering with a research focus in the area of cardiac and muscle tissue engineering and the application of stem cells. During this period, she was also active as board member (and chair) of the women in science network (WISE network). In 2013 she made a transfer to the education board of the department focusing on the management of the Graduate Education. At present, she is program director of the graduate program Life Sciences & Engineering at the Department of Biomedical Engineering at TU/e and combines this with the function of manager of the education and student affairs team of the department Biomedical Engineering.

Dr. Bruno Van Den Bossche holds a PhD in Computer Engineering from Ghent University, Belgium, where he specialized in scalable distributed service-oriented architectures. He is currently CTO at Televic, an international supplier of top-end high-tech communication systems for specific niche markets, including rail, healthcare, conferences and large meetings, and lifelong learning and e-assessment. With headquarters in Belgium and offices and plants across Europe, Asia and the US, Televic employs nearly 700 people worldwide. Before joining Televic he was CTO at Zeticon, a provider of advanced media asset management software, where he was responsible for research, development and innovation to make the company's product scalable. He then became CEO, focusing on the business development, partnerships and internationalization of Zeticon.

Nele Vandemaele, BSc in Medicine, is currently a student of the Master of Science in Medicine at Ghent University. She holds several positions as a student representative, both at the faculty and university level. She was the student-member of the initial accreditation committee of the Master of Science in Business Studies of Hasselt University, Belgium.

On behalf of the NVAO, Dr. Dagmar Provijn, NVAO policy advisors, were responsible for the process-coordination. Dr. Jetje De Groof, secretary, drafted the experts' report.

Annex 4: Schedule of the site visit

The site visit by the committee to the programme was conducted on 14 February 2019 as part of the external assessment procedure regarding the Master of Science in Innovative Health Technology of KU Leuven.

08:30-09:00	Welcome + closed meeting of the committee

09:00-09:30	Meeting with representatives of the Institutional management

- Gerard Govers
- Tine Baelmans
- Bert Lauwers
- Greet Langie

09:45-11:15	Meeting with programme management (development team)

- Luc Geurts
- Koen Eneman
- Frank Rademaekers

11:30-12:30	Meeting with teaching staff

- Luc Janssens
- Bart Vanrumste
- Vero Vanden Abeele
- Manu Vander Poorten
- Kathleen Denis

12:30-13:30	Lunch + closed meeting of the committee

13:30-14:00	Meeting with students of relevant master programmes

- Arthur Van Hulle
- Cedric Benoit
- Maja Zunic
- Koen Van Kerckhoven
- Selwin Konijn

14:00-14:45	Meeting with representatives of the professional field

- Bart De Greef
- Liesbet Lagae
- Paul Leblans
- Sander Van den Dries
- Carl Van Himbeeck
- André Thys

14:45-17:00	Closed meeting of the committee

Annex 5: Documents reviewed

The programme management presented the following documents in an annex to the application file:

- Decision by the Flemish Government with respect to macro-efficiency;
- The discipline-specific learning outcomes;
- The intended programme-specific learning outcomes;
- A schematic overview of the curriculum;
- An outline description of contents of the curriculum components of the first 60 credits;
- A description of the staff – the intended profiles and short Cvs;
- Overview of the contacts with the professional field;
- The investment plan for the entire programme.

Annex 6: List of abbreviations

DLR	Discipline-specific learning outcomes (DLR)
ECTS	European Credit Transfer System
FQF	Flemish Qualifications Framework
NVAO	Dutch-Flemish Accreditation Organization (Nederlands-Vlaamse Accreditatieorganisatie)
OLR	Programme-specific learning outcomes
TLR	Technology Readiness Level
VLUHR	Flemish Council of Universities and University Colleges (Vlaamse Universiteiten en Hogescholen Raad)

Colofon

Master of Science in Innovative Health Technology • 7247
Katholieke Universiteit Leuven
Initial accreditation • Committee report
15 March 2019
Samenstelling: NVAO • Vlaanderen

Nederlands-Vlaamse Accreditatieorganisatie
Accreditation Organisation of the Netherlands and Flanders

Parkstraat 28 • 2514 JK Den Haag
P.O. Box 85498 • 2508 CD The Hague
The Netherlands

T +31 (0)70 312 23 00
E info@nvao.net
www.nvao.net