

Assessment report
Limited Framework Programme Assessment

MSc Management, Economics and Consumer Studies

Wageningen University

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1. Executive summary

In this executive summary, the panel presents the main considerations which led to the assessment of the quality of the MSc Programme *Management, Economics and Consumer Studies* of Wageningen University. The programme was assessed according to the standards of the limited framework, as laid down in the NVAO Assessment framework for the higher education accreditation system of the Netherlands, as published on 20 December 2016 (Staatscourant nr. 69458).

The panel appreciates the programme's learning outcomes which have an academic character and are formulated on an MSc level. The programme aims to develop student's knowledge of management, economics and consumer studies and the application thereof to the domain of agri-food and life sciences. Graduates have a broad foundation and know the various perspectives which are of relevance to multi-faceted problems and solutions. Students specialise themselves in the disciplines of either Business Studies, Consumer Studies, Economics and Governance, or Management of Life Sciences. The panel recommends the programme to reconsider the structure of the programme in these disciplines and the relation to the domains of agri-food and life-sciences so that students will be more exposed to the general domain of life-science. In addition to knowledge, the programme's graduates have obtained a set of skills. The panel is positive about the attention for these academic and professional skills such as collaborative skills and communication skills. The programme is advised by an Advisory Council, which could have a more diversified composition in terms of background in industry. In the eyes of the panel the programme distinguishes itself from other programmes in business studies, amongst others by its focus on sustainability and a pro-social approach, of which the latter could be addressed more explicitly in the learning outcomes. This holds as well for the extent to which students learn how to reflect on their personal development. The panel assesses standard 1, the intended learning outcomes, as satisfactory.

The panel is positive about the structure of the curriculum, which is spread out over two academic years. The programme offers broad common courses to all students in order for students to obtain all the relevant and foundational perspectives. In addition, students are challenged to apply their knowledge and develop several skills within an academic consultancy training and during an internship. Students can choose several elective courses in which they specialize and gain deeper understanding of specific theories and their application to practice and conclude their studies with writing a thesis. The panel concludes that the programme's intended learning outcomes are realised throughout the curriculum. The panel is very positive about the coherence of the programme. In addition, it provides flexibility to students, but the panel recommends the programme to create more space for students to specialise themselves. The staff of the programme is of good quality, although the programme should improve the percentage of staff members who have obtained their University Teaching Qualification. Students tend to delay their studies, mostly during their internship or the writing of the thesis. The panel recommends the programme to improve the study success rates. The programme provides students with guidance through academic staff members and the study advisors. Students are very positive about the staff members and the study advisors of the programme. Overall, the panel assesses standard 2, the programme's teaching and learning environment, as good.

The programme's assessment methods are varied and relate well to the course objectives and teaching methods used. The programme has deliberate attention for the assessment of skills, which is regarded positive by the panel. The panel has studied 15 theses and their assessment forms and agrees with the differentiation in the grades given to students. The panel recommends the programme's staff members to provide more written feedback to students in the space available for comments on the thesis assessment

form. In addition, the panel recommends the programme to consider to have the thesis assessed by three staff members instead of two members and to develop a rubric for the assessment of the thesis, to strengthen the reliability of thesis assessment as well as the exchange and calibration between staff members from various Chair Groups.

The Examination Board encourages to strengthen a quality culture regarding assessment. The board does so by holding discussions with the various Chair Groups about grading practices. The panel regards this system as useful, but recommends the programme to increase the frequency of these discussions, which are currently held once every four years. One of the considered measures which the panel applauds is the peer review organized by the Chair Groups, for which courses are reviewed by academic peers at other universities. The panel assesses standard 3, assessment, as satisfactory.

Graduates of the programme find employment in a range of job roles and within various sectors, both food-related and non-food related. The panel is positive about the quality of the theses it reviewed and in which students demonstrate specialist knowledge and academic capabilities that reflect a master's level. The panel recommends the programme to stimulate students to further elaborate on the recommendations that research outcomes provide to the professional practice. Overall, the quality of the work of students is high, as is the percentage of students that continue their career in a research environment. This is in line with the two-year character of the programme, allowing students to go deeper in their research than students in a one-year programme. The panel recommends the programme to keep investing in the delivery of this type of graduates. The panel assesses standard 4, achieved learning outcomes, as good.

The panel that conducted the assessment of the Master programme in Management, Economics and Consumer Studies of Wageningen University assesses this programme to meet the standards of the limited framework, as laid down in the NVAO Assessment framework for the higher education accreditation system of the Netherlands, judging the programme to be good. Therefore, the panel recommends NVAO to accredit this programme.

Rotterdam, 27 March 2019

Prof.dr. Sjoerd Romme
(panel chair)

Jetse Siebenga MSc.
(panel secretary)

2. Assessment process

The evaluation agency Certiked VBI received the request by Wageningen University to support the limited framework programme assessment process for the Master in *Management, Economics and Consumer Studies* of this University. The objective of the programme assessment process was to assess whether the programme would conform to the standards of the limited framework, as laid down in the NVAO Assessment framework for the higher education accreditation system of the Netherlands, published on 20 December 2016 (Staatscourant nr. 69458).

The management of the programmes in the assessment cluster Business Administration convened to discuss the composition of the assessment panel and to draft the list of candidates.

Having conferred with management of the programme, Certiked invited candidate panel members to sit on the assessment panel. The panel members agreed to do so. The panel composition was as follows:

- Prof. dr. Sjoerd Romme, professor in Entrepreneurship & Innovation at the Eindhoven University of Technology;
- Prof. dr. ir. Ale Smidts, professor of Marketing Research at the Rotterdam School of Management, Erasmus University;
- Prof. dr. ir. Guido Van Huylbroeck, professor in Agricultural and Rural Environmental Economics, Academic Director for International Relations at Ghent University
- Renée Stam MSc, recently graduated in Environmental and Sustainable Development at Utrecht University.

On behalf of Certiked, J.W. Siebenga MSc. served as the secretary in the assessment process. The overall coordination of the assessment cluster Business Management was executed by drs. W. Vercouteren.

All panel members and the secretary confirmed in writing being impartial with regard to the programme to be assessed and observing the rules of confidentiality. Having obtained the authorisation by the University, Certiked requested the approval of NVAO of the proposed panel to conduct the assessment. NVAO have given their approval.

To prepare the assessment process, the process coordinator convened with management of the programme to discuss the outline of the self-assessment report, the subjects to be addressed in this report and the site visit schedule. In addition, the planning of the activities in preparation of the site visit were discussed. In the course of the process preparing for the site visit, programme management and the Certiked process coordinator regularly had contact to fine-tune the process. The activities prior to the site visit have been performed as planned. Programme management approved of the site visit schedule.

Well in advance of the site visit date, programme management sent the list of final projects of graduates of the programme of the last two complete years. Acting on behalf of the assessment panel, the process coordinator selected 15 final projects from this list. The grade distribution in the selection was ensured to conform to the grade distribution in the list, sent by programme management.

The panel chair and the panel members were sent the self-assessment report of the programme, including appendices. In the self-assessment report, the student chapter was included. In addition, the expert panel members were forwarded a number of final projects of the programme graduates, these final projects being part of the selection made by the process coordinator.

A number of weeks before the site visit date, the assessment panel chair and the process coordinator met to discuss the self-assessment report provided by programme management, the procedures regarding the assessment process and the site visit schedule. In this meeting, the profile of panel chairs of NVAO was discussed as well. The panel chair was informed about the competencies, listed in the profile. Documents pertaining to a number of these competencies were presented to the panel chair. The meeting between the panel chair and the process coordinator served as the briefing for panel chairs, as meant in the NVAO profile of panel chairs.

Prior to the date of the site visit, all panel members sent in their preliminary findings, based on the self-assessment report and the final projects studied, and a number of questions to be put to the programme representatives on the day of the site visit. The panel secretary summarised this information, compiling a list of questions, which served as a starting point for the discussions with the programme representatives during the site visit.

Shortly before the site visit date, the complete panel met to go over the preliminary findings concerning the quality of the programme. During this preliminary meeting, the preliminary findings of the panel members, including those about the final projects were discussed. The procedures to be adopted during the site visit, including the questions to be put to the programme representatives on the basis of the list compiled, were discussed as well.

On 23 November 2018, the panel conducted the site visit on the Wageningen University Campus. The site visit schedule was in accordance with the schedule as planned. In a number of separate sessions, the panel was given the opportunity to meet with Faculty Board representatives, programme management, Examination Board representatives, lecturers and final projects examiners, study advisors and students and alumni.

In a closed session at the end of the site visit, the panel considered every one of the findings, weighed the considerations and arrived at conclusions with regard to the quality of the programme. At the end of the site visit, the panel chair presented a broad outline of the considerations and conclusions to programme representatives.

Clearly separated from the process of the programme assessment, the assessment panel members and programme representatives met to conduct the development dialogue, with the objective to discuss future developments of the programme.

The assessment draft report was finalised by the secretary, having taken into account the findings and considerations of the panel. The draft report was sent to the panel members, who studied it and made a number of changes. Thereupon, the secretary edited the final report. This report was presented to programme management to be corrected for factual inaccuracies. Programme management were given two weeks to respond. Having been corrected for these factual inaccuracies, the Certiked bureau sent the report to the University Board to accompany their request for re-accreditation of this programme.

3. Programme administrative information

Name programme in CROHO: M Management, Economics and Consumer Studies

Orientation, level programme: Academic Master

Grade: MSc

Number of credits: 120 EC

Specialisations: Business Studies

Consumer Studies

Economics and Governance

Management in Life Sciences

Location: Wageningen

Mode of study: Full-time (language of instruction: English)

Registration in CROHO: 66836

Name of institution: Wageningen University

Status of institution: Government-funded University

Institution's quality assurance: Approved

4. Findings, considerations and assessments per standard

4.1 Standard 1: Intended learning outcomes

The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

Findings

The programme prepares its graduates to work on an academic level in the agri-food chain and in the life-science related domains closely related to the agri-food chain, or in academia. Graduates of the programme combine socio-economic theories, methodological knowledge and academic and professional skills. Challenges facing the domain are often multi-faceted and can be studied from a business, consumer and governmental/economic perspective. Graduates of the programme can specialise in one of these perspectives or focus on the combination of these perspectives and their application in the domain of the life sciences. Students become experts in the field of their own specialisation but also have learned to take a broader view. All students of the programme obtain knowledge in management, business economics, logistics and marketing issues within companies and chains. The issues studied in the different specialisations are often interrelated.

The learning objectives of the programme are grouped into the following categories: ‘theory and interpretation’, ‘methods’ and ‘skills and attitude’. In the self-evaluation report, the learning outcomes are matched with the Dublin descriptors, demonstrating that the learning outcomes are formulated on a master’s level. In addition, the programme used the EQUAL (European Quality Link) Guidelines for Master in Business Administration Degrees as a subject specific frame of reference. The programme’s learning outcomes fit within these guidelines.

The programme has listed the aims of the various specialisations under the heading of one of the learning outcomes. For the specialisation in Business Studies, graduates are able to evaluate the usefulness of business theories for the (inter)national agri-food chain. For the specialisation in Consumer Studies, graduates are able to evaluate changing attitudes, perceptions and preferences of consumers to optimise global (food) chains. For the specialisation in Economics and Governance, graduates are able to evaluate economic and governance theories to optimise environment, agricultural and international policies, processes and institutions. For the specialisation in Life Sciences, graduates (who enter the programme with a background in life sciences) are able to evaluate processes in life sciences industry from a technical managerial perspective. All graduates are able to reflect on and apply theories to the functioning and organisation of the (inter)national agri-food chains and their environment. They appraise the outcomes of policies regarding sustainable agri-food chain, are able to develop and implement a research design in the field of sustainable food chains. Graduates of the programme respond to social, political and ethical issues related to the food chain, are able to communicate effectively in an intercultural, multidisciplinary team of peers, communicate research outcomes, and design and plan their own learning path.

The programme resides in a rich academic environment, constituted by the so-called Chair Groups, which are research units in the University and also act as such towards external partners. The Chair Groups provide courses to educational programmes. The programme is advised by an External Advisory Committee, representing the profit and non-profit sectors within the agri-food chain and the institutional environment. The panel established that most members of the committee are somehow related to Wageningen University and questioned this during the site visit. The Advisory Committee has observed

that the ability to work with 'big data' has become of increased importance. In addition, the committee has advised the programme to endow its students with a stronger awareness of obtained qualifications as well as the ability to firmly communicate these abilities in professional environments. During the site visit the panel discussed both advices. Regarding the latter, the programme explained that compared to graduates from business master programmes at other universities, graduates of Wageningen University are less employed in other sectors than the agri-food sector and appear to be less eager to boast on their capacities beyond their specialisation field. Since the appreciation of the graduates of the programme by the professional field is high, the advice intends to stimulate the programme to further enhance the already strong positioning of graduates on the job market.

Considerations

The panel has assessed the programme's learning outcomes. These reflect a master's level and have a clear academic orientation. The programme's learning outcomes aim to bring students with a bachelor in a related field a step further. The learning outcomes comprehend a strong academic focus and in addition address both skills and attitudes.

The panel has established that the extent to which the disciplines and domains on which the programme is built and the specialisations are very much interrelated. The separation of the disciplines (business and consumer studies) at the one hand, and the domains (life-sciences and agri-food) on the other hand, is strongly connected to the structure of the bachelor programmes at Wageningen University. The panel encourages the programme to consider to draft the programme's learning outcomes and accordingly its structure on a different basis.

The panel assesses that the programme is strongly based on social science. The panel recommends the programme to consider connecting more strongly to the other parts of Wageningen University to strengthen the unique position of a business and consumer studies programme at a technical university. In particular the panel recommends to reconsider the extent to which students with a non-life sciences background are exposed to the life sciences and its related industries, which is limited in the current approach of the programme. The research environment in which the programme resides provides ample opportunity to engage students in the state-of-the-art knowledge of relevant disciplines and domains. In addition, the programme entails a strong focus on problem analysis and problem solving. The panel suggests to the programme to consider whether a design perspective could strengthen the programme and add to its uniqueness.

The panel has observed that students are challenged to reflect on their personal development. This aspect of personal development could be stronger reflected in the learning outcomes.

The panel has established that the programme regularly receives advice from representatives of the professional field and that the programme as such is nourished by developments within the field. The panel recommends the programme to broaden the industries represented in the Advisory Council. The graduates of the programme might be of interest to a whole range of professional fields, and not solely to those which directly are part of the agri-food industry. Broadening the composition would enable to receive useful comments from other sectors to complement the strong basis in agri-food related issues. The panel confirms the growing importance of big data and appropriate data analytics skills and methods in business education.

Assessment of this standard

These considerations have led the assessment panel to assess standard 1, Intended learning outcomes, to be satisfactory.

4.2 Standard 2: Teaching-learning environment

The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

Findings

The programme is one of the master programmes of the Faculty of Agricultural and Environmental Science. The programme board is responsible for the quality of the programme. The day-to-day management of the programme is the responsibility of a programme director who is also responsible for the bachelor programme Economics and Governance and the bachelor programme in Management and Consumer Studies. Staffing of the programme is the responsibility of the Chair Groups which form research units that contract scientific staff. There is a common programme committee for the bachelor programme Management and Consumer Studies, the bachelor programme Economics and Governance and the master programme Management, Economics and Consumer studies. The committee is composed of six lecturers and six students and advises programme management on the quality of the programme. The examining board is responsible for the social sciences programmes within Wageningen University. It has the authority to ensure the quality of the examinations and assessments of this programme and the other social science programmes within the faculty.

The number of students entering the programme remained rather stable over the past three years, being on average 135 students per year and ranging from 126 to 155 students per year. The division of students who graduated over the various specialisations is 47% for Business Studies, 31% for Consumer Studies, 14% for Economics and Governance and 8% for Management in Life Sciences. The programme's intake of international students has been 31% of the total population, over the last 10 years and is rather stable. Students admitted to the programme fall in three categories: students with a bachelor from a Dutch University of Applied Sciences, students with one of the following bachelor's from Wageningen University 'Management and Consumer Studies', 'Economics and Governance' and 'Health and Society' and students with a different bachelor. Students who opt for the specialisation Management in Life Sciences are expected to have completed a life sciences bachelor programme, such as plant and animal sciences or food sciences and technology. Students who completed one of the mentioned Wageningen University Bachelor programmes are admitted to the programme unconditionally, applications of all other students are individually evaluated by the admission committee. The committee takes into account the content of the completed bachelor programme, the applicant's grade point average (GPA), CV and motivation letter. The programme offers a pre-master programme for applicants with deficiencies. It is tailored to the applicant and based on assessed short-comings in their bachelor's programme.

The programme consists of two study years, each with a course programme of 60 credits. All students, regardless of their specialisation, have to complete a number of elements. These comprise a 9 EC course '*Academic Consultancy Training*', which entails students to practice several skills and apply academic knowledge to real-world problems. Students collaborate in teams composed of students with various nationalities and disciplinary backgrounds. Students are very positive about this element in the programme but remark that the projects are mainly residing in a Dutch context, which diminishes the international outlook of the programme. In addition to the training, all students follow a '*Modular Skills Training*', which consists of two 1,5 EC skill trainings (students can choose two out of 24) do a 24 EC '*Internship*' and take the 3-EC '*Seminar Social Sciences*' in order to prepare their 36 EC '*Thesis*'. All students except for students in the Management of Life Sciences specialisation, take the courses '*Philosophy and Ethics of Management, Economics and Consumer Behaviour*' (6 EC) and '*Interdisciplinary themes in Food and Sustainability*' (6 EC). Students in the specialisation Life Sciences

Management follow a 6 EC course in *Research Design and Research Methods* a 6 EC course *Introduction to Management in Life Sciences*, a 6-EC course *Supply Chain Management* and have to choose from two focus-areas on offer, being either Management of Business and Supply Chains or Management of Innovations. They follow courses within one of these focus-areas. All specialisations offer a set of electives which allows students to further specialise themselves or broaden their knowledge (18 EC). Students are positive about the level of the courses and the workload for the courses. For students who seek more challenge or pursue a PhD-trajectory, the University since last year offers courses developed by the Graduate School. Students are positive about the options for specialisation, but mention during the site visit to find the amount of credits that give room to specialisation rather limited.

The self-evaluation report lists a table in which the various components of the programme are matched with the intended learning outcomes. For all courses, specific learning goals are drafted. To decide what appropriate teaching and learning methods are, the learning goals per course as well as the student population are taken into account. The programme uses lecturers for the introduction and exploration of theories and methods to large groups of students, and seminars for smaller groups of students that allow staff members and students to go more in-depth. The programme uses various teaching methods for training of skills. In the *Academic Consultancy Project* students write an application letter and present their CV; for the *Internship*, students write an academic report but also a self-reflection report in which they reflect on the development of their competencies during the internship. Before students start their internship, they often know already in which Chair Group they want to write their thesis. Chair Groups often mediate between organisations and students. This strengthens the connection between the work students do for their internship and their thesis. The teaching methods in the programme are further innovated by a grant programme at the level of the University in which several staff members of the programme have taken part.

The programme is delivered by 60 staff members, representing 13 Chair Groups. With the exception of one, all staff members have obtained a PhD. A quarter of the staff members is full professor. Staff members are embedded in research groups that offer courses in several programmes. The extent to which staff members feel ownership for the programme as a whole varies, which can complicate the extent to which innovation and change can be implemented by the programme's management. The student-staff ratio for the programme was in academic year 2016-2017 calculated on 1:30. Students are very positive about the time they feel staff members have available to answer their questions. They are satisfied with the expertise of staff members and quality of the courses. The percentage of staff members who have obtained their University Teacher Qualification (UTQ) is 42%. Another 30% is progressing towards a UTQ and 28% has ample teaching experience dating from before the introduction of a mandatory UTQ. The panel discussed the processes and definitions used by the University and the programme. One of the measures taken by the university to improve the percentages of staff members with a UTQ is that to have obtained the UTQ, is a condition for promotion within the university. According to senior staff members this even increases the workload of younger staff members who already experience a lot of pressure. All staff members made a test on their English proficiency. In case the results were below standard, staff members had to take additional courses in order to ensure that the quality of the teaching would not suffer from a lack of English proficiency.

The success rate of the programme after two years was 49%, 49% and 43% for respectively the 2013, 2014 and 2015 cohort. The success rate after three years for the 2012, 2013 and 2014 cohort is respectively 87%, 85% and 78%. The panel discussed the success rates of the programme. The thesis and the internship are elements that students tend to delay on. At the level of the programme's policies, there is no incentive for students to not delay their studies. Student's progress is monitored by staff members,

they are often reluctant to take strict measures when students lay behind. The planning of the thesis is discussed with students at the beginning of the thesis process and also registered in a thesis contract. The student is free to start in any period and create his or her own schedule, this enhances the planning skills of students. In order to be able to start their thesis, students need to have finished certain courses. The thesis contract is made up after a student has presented a thesis proposal which is approved by the supervisor. In addition, the policies within Chair Groups differ. Some Chair Groups have as a rule that if a student is not finished after half a year, he or she will have a discussion about the planning with the thesis supervisor. For some other Chair Groups, the time students need to develop their ideas and find their own way is regarded as very valuable to the learning process of the student and to his or her development as an academically educated professional.

The study advisors of the programme know their students well and closely monitor student's progress. The study advisors discuss student's progress and other matters regarding the programme. During the site visit, students expressed their appreciation for the work of the study advisors, who know their students well.

Considerations

The panel has established that the curriculum is carefully developed and allows students to obtain the programme's learning outcomes. The content of the courses provides students with a broad understanding of the field of agri-business and yet at the same time, students obtain specialised knowledge in one of the perspectives within this field. The panel can agree with the remark of students to offer more room for specialisation through courses, by limiting the amount of EC for other parts of the curriculum. An option would be to diminish the amount of time and credits for the thesis or the internship so that students have more room for specialisation and can take courses instead.

The teaching and learning methods offered by the programme are adequate and sufficiently varied. In this respect, the panel is very positive about the professional skills training in the programme, allowing students to not only practice their skills but enhancing the development thereof by making students reflect on it. The panel has established that the extent to which students are offered a design-approach towards problem solving is limited, while this can provide students with a different approach towards problems encountered in the fields of agri-food and life sciences. The panel suggests the programme to consider to elaborate on this approach throughout the programme. With regard to the international outlook of the programme, the panel encourages the programme to provide students with more international cases in the *Academic Consultancy Training*.

The panel is very positive about the quality of the teaching staff but recommends the programme to develop ways to improve the rate of staff members who have obtained their UTQ. In addition, possibilities for staff members to be promoted on the basis of their achievements in terms of education could be extended. The panel recommends senior staff members to promote attention for the quality of teaching among junior staff members and be an example in this regard. The structure through which research institutes and educational programmes are related to each other does not promote a strong ownership of staff members with the educational programme as a whole and could possibly hinder the implementation of changes and innovation in the curriculum, such as the incorporation of the attention to big data and quantitative analysis in various courses.

Staff members are very accessible and students feel that they are part of the academic community. The services to students in terms of study advice and support are regarded as very positive by the students, the panel underlines that these provisions are very good and was impressed by the level of service provided to

students as well as the extent to which students feel that they are known by the study advisors. The study success rates after two years are low, the programme should take measures to improve this rate, for example, by setting clear deadlines, limiting the number of moments they can graduate, or restricting students who took a long time to finish their thesis work from graduating cum laude or summa cum laude.

Assessment of this standard

These considerations have led the assessment panel to assess standard 2, Teaching-learning environment, to be good.

4.3 Standard 3: Student assessment

The programme has an adequate system of student assessment in place.

Findings

The activities of the Examination Board are guided by the annually updated Education and Examination Regulations Wageningen University, and the WU Rules and Regulations of the Examining Boards. The university provides staff members with guidelines regarding assessment in the 'Education assessment policy' document. Assessment methods used in the programme are written exams (open-end questions, multiple choice questions, or combinations), individual or group assignments, papers/essays, presentations, and participation in course work. In order to provide transparency, the relative contribution and minimum grades for partial exams are explicitly specified. In case of written exams, all courses provide example exams to students. The Examination Board checks and approves the description of the examination of the courses.

Skills are tested in the specific courses developed to this end. In addition, during the *Academic Consultancy Training*, students are tested on their capability to collaborate in multidisciplinary, multinational teams. The students have to write a self-reflection report after their internship, in which they reflect on their personal development and the development of professional and academic skills. The report is discussed with the student by the internship coordinator.

The thesis assessment form contains criteria that need to be scored, divided in four categories: research competence, thesis report, the written and oral presentation and the oral defence. The relative weight of each category has to be decided upon by the supervisor and the student, and is registered in a thesis contract. The margins are fixed, so for example research competence can have a weight between 30% and 60% of the final grade, whereas the written and oral presentation can have a weight between 5% and 10% of the grade. Besides marking the student on each criterion, the form provides room for open comments. The thesis is graded by the supervisor and a second assessor. The panel reviewed 15 theses and discussed with the Examination Board the extent to which staff members make use of the space to provide open comments. The panel agrees with the Examination Board that staff members could make more use of the space for comments, to improve the written feedback to students. The written feedback is more elaborate in cases of grades on the borders of the scale (6 and 9). To the panel, it was in most cases not fully clear from the comments why a student received a certain grade. The grades given, however, were in almost all cases similar to the panel's appreciation of the theses. The panel has observed that students receive more elaborate feedback orally, after the defence of their thesis.

The Examination Board spot-checks the quality of the thesis and the assessment of the thesis on a regular basis. The Board visits the various Chair Groups in which staff members reside to discuss the quality of the course materials provided to students and to discuss the practices of assessment in these Chair Groups. These visits take place once every four years, the Examination Board intends to raise the frequency in which these visits take place. Chair Groups are stimulated to organize peer reviews on their courses, in which they ask academic staff from other universities to review their courses. If Chair Groups organize this, the Examination Board is informed on the outcomes of the peer review. Other topics which are discussed and checked by the Examination Board are, amongst others, whether answer keys are available, the assessment practices with regard to theses and internships, and the outcomes of student evaluations with regard to assessment of courses offered by a Chair Group.

Considerations

The panel has established that the programme has a system of assessment in place which allows the programme to safeguard the quality of the assessment. The system draws on the assessment practices within various Chair Groups and is aimed at stimulating a quality culture within these Chair Groups. In addition, the Examination Board exercises control over the courses by reviewing and approving the description of examinations in the course descriptions. The panel is very positive about the variety of assessment methods used by the programme, including the strong approach towards the assessment of skills.

The thesis is a very important part of the programme, and students receive a high number of credits for the thesis. The panel recommends the programme therefore to consider to have a third staff member from another Chair Group involved in the assessment of the thesis, in order to safeguard the reliability of the thesis assessment and stimulate exchange between the various Chair Groups. In other Technical Universities students meet various times with a graduation committee of at least three persons. The panel in addition recommends the programme to develop rubrics for the assessment of the thesis that can be an instrument in ensuring the reliability of the thesis assessment.

The panel supports the Examination Board in its intention to raise the number of visits to the Chair Groups and strongly recommends the programme management to provide the means to support this. The panel is positive about how the programme systematically uses the students' feedback on their assessment. In addition, it is positive about the renewed assessment form for the assessment of the thesis. It recommends the programme to improve the extent to which staff members provide comments and explain their appreciation of the student's work on the assessment form.

Assessment of this standard

The considerations have led the assessment panel to assess standard 3, Student assessment, to be satisfactory.

4.4 Standard 4: Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Findings

A demonstration of the achievement of the learning outcomes is provided by the thesis. Students often write their thesis in collaboration with a company and work on real-world problems. The average grade obtained for the thesis in academic year 2016-2017 is 7.7, which shows that students generally do well. The panel has reviewed 15 theses and is positive about the demonstration of the learning outcomes by the students. Theses cover a wide range of topics, reflecting the various specialisations.

Most graduates (62%) of the programme find a job within six months after graduation, 12% of the graduates continue their career as a PhD-student. 35% of the programme's graduates find employment in industries and trade, both feed/food industries as well as non-feed/food industries. Another 22% of the programme's graduates work in universities and research institutions. Others work in ministries and governmental services, engineering and consultancy agencies, marketing, communication and information services and financial services. Job roles performed by graduates of the programme are mainly that of adviser or consultant, project leader/program coordinator, or researcher.

Considerations

The theses the panel studied, reflect the achievement of the learning outcomes. Students display the ability to formulate a research question, are elaborate in their reflection on the chosen methodology used to investigate the stated problem, and define their conclusions in a convincing way. The theses display academic quality at a master's level and the panel concludes that the theses connect well to the learning outcomes of the programme. The extent to which the implications of the research outcomes on professional practice are discussed could be improved. The panel sees this as a missed opportunity for the programme, because students appear to produce relevant research outcomes that add to the solutions of problems within the industry or the company to which the research is related. The focus on sustainable and pro-social business is reflected in the topics chosen by the students. The quality of the work and research training of the students is high, which is also demonstrated by the number of students who start working in research institutes and universities. The panel reckons this as a strong and unique selling point of the programme. It recommends the programme to keep investing in the academic character of the programme and further increase the extent to which students achieve the learning outcomes on a high level and within due time.

Assessment of this standard

The considerations have led the assessment panel to assess standard 4, Achieved learning outcomes, to be good.

5. Overview of assessments

Standard	Assessment
Standard 1. Intended learning outcomes	Satisfactory
Standard 2: Teaching-learning environment	Good
Standard 3: Student assessment	Satisfactory
Standard 4: Achieved learning outcomes	Good
Programme	Good

6. Recommendations

In this report, a number of recommendations by the panel have been listed. For the sake of clarity, these recommendations are outlined here:

- to more explicitly address personal development and reflection on personal development in the learning outcomes;
- to diversify the composition of the Advisory Council;
- to consider an increase of the exposure to life sciences for students with a non-life science background;
- to look for possibilities to make room for credits awarded to courses which enhance specialisation of students;
- to improve the rate of staff members who have obtained their UTQ;
- to look for ways to improve the study success rate;
- to consider to have third staff member involved in the assessment of the thesis, preferably representing another Chair Group;
- to develop rubrics for the assessment of the thesis;
- to improve the extent to which staff members provide comments and explain their appreciation of the student's work on the assessment form;
- to stimulate students to elaborate on the recommendations for professional practice in their thesis;
- to keep investing in the programme's research character.