Management, Economics and Consumer Studies

Faculty of Agricultural and Environmental Sciences, Wageningen University

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This report was finalized on 20 November 2012

Report on the bachelor programme in Bedrijfs- en Consumentenwetenschappen and the master programme in Management, Economics and Consumer Studies of Wageningen University

This report takes the NVAO's Assessment framework for limited programme assessments as a starting point.

Administrative data regarding the programmes

Bachelor programme in Bedrijfs- en Consumentenwetenschappen			
Name of the programme:	Bedrijfs- en Consumentenwetenschappen		
CROHO number:	56836		
Level of the programme:	bachelor		
Orientation of the programme:	academic		
Number of credits:	180 EC		
Specializations or tracks:	A. Management Studies		
	B. Consumer Studies		
Location(s):	Wageningen		
Mode(s) of study:	full time		
Expiration of accreditation:	31-12-2013		

Master programme in Management, Economics and Consumer Studies

1 8 8	,
Name of the programme:	Management, Economics and Consumer Studies
CROHO number:	66836
Level of the programme:	master
Orientation of the programme:	academic
Number of credits:	120 EC
Specializations or tracks:	A. Management Studies
	B. Consumer Studies
	C. Economics, Environment and Governance
	D. Management, Innovation and Life Sciences
Location(s):	Wageningen
Mode(s) of study:	full time
Expiration of accreditation:	31-12-2013
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The visit of the assessment committee Management, Economics and Consumer Studies to the Faculty of Agricultural and Environmental Sciences of Wageningen University took place on 6 and 7 June 2012.

Administrative data regarding the institution

Name of the institution: Status of the institution: Result institutional quality assurance assessment: Wageningen University publicly funded institution positive

Quantitative data regarding the programmes

The required quantitative data regarding the programmes are included in Appendix 5.

Composition of the assessment committee

The committee that assessed the bachelor programme in Bedrijfs- en Consumentenwetenschappen and the master programme in Management, Economics and Consumer Studies consisted of:

- Prof. F. Zwarts (chair), professor at University of Groningen and professor and manager at University Campus Fryslân;
- Mrs. R.L. Prenen, MSc, independent educational adviser;
- Prof. E. Lefebvre, professor at the Department of Mathematics at the Ecole Polytechnique de Montreal (Canada);
- Prof. dr. ir. W. Verbeke, professor in Agro-food Marketing and Consumer Behaviour at Ghent University (Belgium);
- Prof. J. Braden, professor in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana Champaign (US);
- Mrs. Liliya Ivoanova, BSc, master student in International Economic Relations at the University of National and World Economy (Bulgaria).

The committee was supported by Mrs. M. Maarleveld MSc., who acted as secretary.

General information regarding Wageningen University

Educational programme assessments in Life Sciences at Wageningen University

A total of 31 educational programmes which could not be included in a national disciplinary assessment had to be assessed in 2012 in order to apply for reaccreditation. It was decided to divide the work among fourteen committees in the period between March and July 2012. For each site visit different expert committee members were invited to assess the programmes. In addition to the expert committee members, two non-expert committee members were involved as core members in all site visits and programme assessments. These non-expert committee members were the chairman, Prof. F. Zwarts, and the educational expert, Mrs. R.L. Prenen. This construction was chosen to guarantee consistency between the fourteen assessments as well as to respect the diversity between the programmes. Prior to the site visits an extended kick-off meeting was held in February 2012, during which subjects applicable to all programmes were discussed (for the programme, see appendix 6). In addition to the core members of the committee, an expert member (Prof. E. Van Damme), a student member (Mrs. T. Veldkamp, BSc) and both secretaries to the committees (Dr M.J.V. Van Bogaert and Mrs. M. Maarleveld, MSc) were present. During the kick-off meeting, interviews were held with representatives of the Education Institute, Programme Committees, study advisers, Examining Boards and alumni. The findings of the kick-off meeting were used as input for the fourteen site visits and are incorporated in the committee reports on the 31 educational programmes.

Wageningen University

Wageningen University is comprised of one faculty, the Faculty of Agricultural and Environmental Sciences. The Faculty consists of 80 chair groups, arranged in five departments. All educational programmes, bachelor and master, are organized by the Education Institute (OWI). The Board of the OWI is responsible for the content, quality and finances of the educational programmes. Every programme has a programme director and a Programme Committee, consisting of equal numbers of students and academic staff. The Programme Committee is responsible for the content and quality of the programme, though in a formal sense this is subject to approval by the Board of the OWI. The programme director is responsible for the realization of the programme.

The courses are provided by staff of the chair groups, the 'supply side'. The Programme Committees are considered the 'demand side', with the programme director being the 'matchmaker'.

Wageningen has four Examining Boards, usually consisting of five to eight people from different disciplines. Before the site visit period, these boards were in the process of strengthening their role of assuring the quality of assessments.

Each programme has one or more study advisers, who are tasked with supporting students throughout their study career. Study advisers provide information, invite students for progress evaluations and meetings to plan the student's individual curriculum. Each student needs the study adviser's approval for the elective parts of the programme s/he has chosen.

Working method of the assessment committee

Preparation

After receiving the critical reflection, the project manager checked the quality and completeness of the information provided. After approval, the critical reflection was forwarded to the committee, in both printed form and digitally. In addition, the committee members selected and read 14 Bachelor and 17 Master theses that was assessed (see Appendix 7).

Before the site visit the project manager created a draft programme for the interviews (see Appendix 6). The draft programme was discussed with the chair of the committee and the coordinator of the educational institute. As requested by QANU, the coordinators of the programmes carefully composed a select and representative panel for all interviews.

Site visit

During the initial meeting at the start of each site visit, the committee members discussed among themselves their findings regarding the critical reflection and the theses. They also discussed their task and working methods and the proposed domain-specific requirements (see Appendix 2).

During the site visit, interviews were held with representatives of the programme, students, staff members, the Educational Committee, and a student adviser. The committee also received additional information, for example, study books and reports from the meetings of the Educational Committee. This information was examined during the site visit. When considered necessary, committee members could read additional theses during the site visit. A

consultation hour was scheduled to give students and staff of the programmes the opportunity to talk to the committee. No requests were received for the consultation hour.

The committee used part of the final day of the site visit to discuss the assessment of the programmes and to prepare a preliminary presentation of the findings. The site visit concluded with an oral presentation by the chairman of the general assessment and several specific findings and impressions of the programme.

Report

After the site visit the project manager wrote a draft report based on the committee's findings. The draft was first commented upon by the committee members and then sent to the faculty to check for factual irregularities. All comments made by the faculty were discussed with the chair of the committee and, if necessary, with the other committee members. After revision, the report became official.

Decision rules

In accordance with NVAO's Assessment Framework for Limited Programme Assessments (as of 6 December 2010), the committee used the following definitions for the assessment of each individual programme, both of the standards and the programme as a whole.

Generic quality

The quality that can reasonably be expected in an international perspective from a higher education bachelor or master programme.

Unsatisfactory

The programme does not meet the current generic quality standards and shows serious shortcomings in several areas.

Satisfactory

The programme meets the current generic quality standards and shows an acceptable level across its entire spectrum.

Good

The programme systematically surpasses the current generic quality standards across its entire spectrum.

Excellent

The programme systematically clearly surpasses the current generic quality standards across its entire spectrum and is regarded as an international model.

Summary judgement

This report provides the findings and considerations of the Life Sciences committee on the bachelor and master programmes in Management, Economics and Consumer Studies at Wageningen University. The committee assessment is based on information in the critical reflection, interviews during the site visit and a selection of theses.

Standard 1: Intended learning outcomes

The programmes focus on the managerial, economic, environmental and social aspects of the production and consumption of food and other agricultural products within households and businesses in a sustainable and dynamic environment. The demand for food, bio-energy and protection of biodiversity leads to high pressure on available resources and requires a multidisciplinary approach and a thorough understanding of consumer and management theories. Food, the agri-food-chain and the environment are subject to dynamic debates regarding sustainability, food safety, food ethics and biodiversity.

The bachelor programme addresses these issues from a management and consumer perspective and it aims to provide graduates with a solid theoretical base in management and consumer studies and academic skills. The master programme aims to deliver academics, who combine widely applicable scientific socio-economic theories and academic skills with specific knowledge of the agri-food chain and the environment. Graduates of the master programme contribute to the solution of complex issues related to sustainable production and consumption using a scientific approach, be it in a research setting or in more operational profit or non-profit environment.

Both programmes aim to combine socio-economic and technical disciplines. It is a unique feature of the programmes, highly valued by the committee, yet the names of the programmes do not sufficiently reveal this uniqueness. The committee believes that this needs to be more explicit in the documentation. In the intended learning outcomes of both programmes, the life sciences aspects can be articulated better. This is the main recommendation of the committee for both programmes. The committee would have liked to see the requirements of the professional field reflected more specifically in the intended learning outcomes, mainly in those of the master programme. Still, the committee believes the programmes meet international requirements of the professional field and discipline and the level and orientation meet the standards for the bachelor and master programme.

Standard 2: Teaching-learning environment

For both programmes the committee has established that the curriculum and the courses are designed to achieve the intended learning outcomes. The large number of electives in the bachelor programme is a potential threat to the coherence of the programme, and the committee stresses the importance of the study adviser in the process of making coherent programmes for each student individually, as well as across the overall student group. Regarding the bachelor thesis, the committee started out wondering whether the programme can keep affording this luxury, as it is time-consuming for both student and supervisor(s). It is clear to the committee that the bachelor thesis is seen as an important part of the curriculum and the committee agrees that it is a valuable exercise that prepares for the master programme. In the bachelor programme the workload was unevenly divided over the three years, but this has been resolved recently.

The different specializations make that the master programme is better structured than the bachelor programme. Each of the specializations is well structured and the courses form a

coherent curriculum. Within each specialization, breadth and depth are in balance. A bigger common part in the master programme is recommended to help students to identify more with the programme. This recommendation is in line with the programmes' intentions for the further improvement.

The committee looked into programme specific services, student support, student intake, workload and concluded that they are very well organized and balanced. In general bachelor graduates continue with a master programme, mainly in Management Economics and Consumer Studies. Graduates of the master programme find jobs in a wide variety of sectors. The committee is impressed with the quality of the staff and especially the interaction between students and lecturers.

Standard 3: Assessment and achieved learning outcomes

The committee is very positive with regard to the initiatives Wageningen University is currently implementing in the bachelor and master programmes. The Examining Boards are in the process of strengthening their role in ensuring the quality of assessment and seem committed to formalizing the assessment system. Having only four Examining Boards is stimulating the consistency and equality of the procedures, at the same time these four Examining Boards are responsible for a total of 49 programmes. This might lead to a certain distance from the programmes, making it difficult for the Examining Boards to really be in control at the programme level. The committee is very positive on the assessment system, and believes it is well-organized. Regarding the bachelor programme, it recommends assessing individual writing more often, to strengthen the writing skills of students.

The committee agrees with the grades given to both bachelor and master thesis. It is positive on the quality of the thesis, especially the master theses. The success rates in the bachelor are quite low, the master programme has good success rates. The success rates have increased in both programmes and are expected to increase even further. The committee is of the opinion that with the current pressure on graduating in time in the Netherlands, the number of possible resits at Wageningen University is outdated. The committee assesses the standards from the Assessment Framework for Limited Programme Assessments in the following way:

Bachelor programme in Bedrijfs- en Consumentenwetenschappen:

Standard 1: Intended learning outcomes Standard 2: Teaching-learning environment Standard 3: Assessment and achieved learning outcomes	satisfactory satisfactory satisfactory
General conclusion	satisfactory
Master programme in Management, Economics and Consumer Studies:	
Standard 1: Intended learning outcomes Standard 2: Teaching-learning environment Standard 3: Assessment and achieved learning outcomes	satisfactory good good
General conclusion	good

The chair and the secretary of the committee hereby declare that all members of the committee have studied this report and that they agree with the judgements laid down in it. They confirm that the assessment has been conducted in accordance with the criteria relating to independence.

Date: 20 November 2012

Prof. Frans Zwarts

Marlous Maarleveld, MSc.

Standard 1: Intended learning outcomes

The intended learning outcomes of the programme have been concretised with regard to content, level and orientation; they meet international requirements.

Explanation:

As for level and orientation (bachelor's or master's; professional or academic), the intended learning outcomes fit into the Dutch qualifications framework. In addition, they tie in with the international perspective of the requirements currently set by the professional field and the discipline with regard to the contents of the programme.

1.1 Findings

In this standard the committee assesses the programme's objectives and profile, intended learning outcomes, and level and orientation. Furthermore, this standard describes the requirements of the professional field and discipline.

Programme objectives and profile

The programmes focus on the managerial, economic, environmental and social aspects of the production and consumption of food and other agricultural products within households and business in a sustainable and dynamic environment. The combination of socio-economic and technical disciplines makes the programmes special compared to other programmes in the domain of management, economics and consumer studies. The committee was surprised that the names of the programmes are very general and do not show this unique feature. Also the names of many courses confused the committee at first, as it is not easy to determine what courses belong to which disciplines or chair groups to people from outside. The interviews with students and lectures revealed that insiders don't have any problems with this system and find their way easily. For international students, the programmes advertise with minors with specific combinations of courses instead of individual courses.

Bachelor programme

The bachelor programme aims to provide graduates with a solid theoretical base in management and consumer studies as well as with academic skills. The programme integrates social sciences with technical knowledge from the life sciences. The critical refection explains that demand for food, bio-energy and protection of biodiversity leads to high pressure on available resources and requires a multidisciplinary approach and a thorough understanding of consumer and management theories. Food, the agri-food-chain and the environment are subject to dynamic debates regarding sustainability, food safety, food ethics and biodiversity. This programme addresses these issues from a management and consumer perspective. Global issues are studied and theory is applied to national and international cases. The programme offers two majors, one in *Management Studies* and one in *Consumer Studies*. According to the critical reflection, it is the only programme in the Netherlands where students can specialize in consumer studies.

Master programme

The master programme combines theories from management studies, economics and consumer studies with the life sciences. The programme aims to deliver graduates able to combine widely applicable scientific socio-economic theories and academic skills with specific knowledge of the agri-food chain and the environment. Graduates of this programme contribute to the solution of complex issues related to sustainable production and consumption using a scientific approach, be it in a research setting or in more operational profit or non-profit environment. Students apply state-of-the-art knowledge to issues on the intersection of socio-economics and life sciences. The programme is internationally oriented and students tackle issues at a national, European and global level in both developed and developing countries. The programme offers four specializations:

- A. Management studies;
- B. Consumer studies;
- C. Economics, Environment and Governance;
- D. Management, Innovation and Life Sciences.

The Specializations A and D both focus on management issues and logistic processes in companies and chains, but the enrolment of these specializations differ; specialization D has been developed especially for students with a life science bachelor background. Specialization B focuses on the behaviour, lifestyles and consumption patterns of consumers and households and translates these findings for actors in the chain and their environment. Specialization C focuses on economic, governance and environmental issues influencing food production and the environment. The critical reflection states that students become experts in the field of their specialization. Experts from the different specializations are needed to solve the more complex issues related to food, the agri-food chain, and the environment.

Intended learning outcomes

The intended learning outcomes for both programmes are in appendix 3. They have been developed by the Programme Committee; they have been discussed with the External Advisory Committee and are periodically reviewed to keep up with scientific developments and the changing demand from the professional field.

Bachelor programme

Intended learning outcomes 1-8 are programme specific and cover both theory and research skills. Number 9, 10, 11 and 12 describe the interpersonal skills that are necessary for an academic attitude, such as communication, presentation and lifelong learning. The learning outcomes guarantee that graduates reach a sufficient level to start a master's programme in the domain of management economics and consumer studies.

Master programme

Intended learning outcomes 1-4 focus on acquiring 'knowledge and understanding' and 'applying knowledge and understanding' related to the agri-food chain and the environment. Intended learning outcomes 5-8 enable graduates to work as a researcher, both at university level as well as, for example, in a consultancy or advisory environment. Numbers 9-12 describe the general academic nature of the programme which is necessary to enable graduates to use the knowledge and domain-specific skills in every day work; e.g. team work, communication and lifelong learning.

In general, the committee thinks the intended learning outcomes are sufficient for both programmes, and they fit the level of a bachelor and a master programme, but they are rather general. The same issue of visibility of the life sciences in the objective and profile, was also raised in discussing the intended learning outcomes. In analysing them, the committee does not see the life sciences aspects very clearly. The committee believes that the combination of socio-economic and technical aspects needs to be more explicit in the intended learning outcomes. The programme management team is aware that their documentation does not reflect the programmes to its full extent, and they are working on it.

Level and orientation

The correspondence of the intended learning outcomes to the Dublin descriptors provided in the critical reflection indicate that the international requirements for the bachelor and master programme are met. The differences between the bachelor and the master are the depth in which theories are offered, the selection of theories and the level of supervision. During the bachelor, the focus is on understanding theories, while the master programme focuses more on the application of advanced theories. Both programmes are academically orientated and a great deal of attention is paid to scientific skills in the learning outcomes of both programmes. In the bachelor programme, students learn how to conduct research and to reflect critically on issues, theories and literature. The bachelor thesis is written as a scientific report. In the master programme, students practise their academic skills in the thesis, academic internship, academic consultancy training, seminar and the advanced specialization courses. Students learn to reflect critically on problems, theories and research results. The master programme aims to provide graduates with the qualifications required for relevant PhD programmes.

Requirements of the professional field and discipline

The requirements of the professional field and discipline have been laid down in the subjectspecific framework (see Appendix 2). Congruity between the programmes and the labour market, the professional field, is secured by the External Advisory Committee (EAC). The EAC members work in profit and non-profit (government, research institutes and universities) sectors and are a mix of alumni and non-alumni. They advise the Programme Committee whether the knowledge and skills of the graduates fit the current needs of the labour market related to the domain of food, the agri-food chain and the environment. The EAC is selected according to the majors in the bachelor programme and the specializations in the master programme. The Programme Committee organizes annual meetings with the EAC to discuss new developments in the curriculum and changes in the labour market. According to the EAC there is a demand for graduates who can contribute to issues in the agri-food chain from a scientific socio-economic perspective on master level. The professional field shows little interest to hire bachelor graduates. During the interviews the management team added that the professional field prefers graduates from either the professional bachelor programmes, or graduates from the master programme. The committee noticed that the intended learning outcomes refer mainly to requirements of the discipline, and academic and scientific skills, and do not explicitly refer to the requirements of the professional field. The management team explained that it is addressed in several courses and the general academic learning outcomes prepare students for the professional field as well. The committee has established that the programmes fit the subject specific framework and meet the requirements of the professional field and discipline.

1.2 Considerations

Overall the committee is of the opinion that both programmes have a clear profile and objectives that meet international standards, but the transparency of the programmes to people outside Wageningen University can be improved, for example by improving the labelling of the courses. The committee questioned the names of both programmes as they do not reveal the combination of socio-economic and technical (life sciences) disciplines that the programmes offer. This is a unique feature and should be more emphasized according to the committee. The same issue was raised with the intended learning outcomes. They are quite general and the life sciences are not well represented, this is a missed opportunity. The committee agrees with the programme management team that the life sciences should be more explicit in their documentation. The level and orientation of both programmes are clear and the committee concurs with it. The committee has established that both programmes meet international requirements of the professional field and discipline, though the link between the professional field and the intended learning outcomes was not immediately clear to the committee. It understands that the general academic skills help students prepare for the professional field as well as for an academic career, but the committee would have like to see the requirements of the professional field reflected more in the intended learning outcomes, especially in those of the master programme.

1.3 Conclusion

Bachelor programme in Bedrijfs- en Consumentenwetenschappen: the committee assesses Standard 1 as satisfactory.

Master programme in Management, Economics and Consumer Studies: the committee assesses Standard 1 as satisfactory.

Standard 2: Teaching-learning environment

The curriculum, staff and programme-specific services and facilities enable the incoming students to achieve the intended learning outcomes.

Explanation:

The contents and structure of the curriculum enable the students admitted to achieve the intended learning outcomes. The quality of the staff and of the programme-specific services and facilities is essential to that end. Curriculum, staff, services and facilities constitute a coherent teaching-learning environment for the students.

2.1 Findings

Curriculum and coherency of the programmes

The academic year of Wageningen University consists of two semesters, each with 3 periods. In periods 1, 2 and 5 (six weeks each) two courses are taught, one in the morning and one in the afternoon. Periods 3 and 4 are short periods with 4 weeks of teaching and only one course each. Period 6 lasts nine weeks. Each year students can take one exam and two resits for each course. Currently, this system is being reviewed, concerning the number of resits and the timing of the exams.

The curriculum and courses in both programmes have been developed to achieve the intended learning outcomes as given in Standard 1. In the critical reflection, matrixes are presented which relate each course to the intended learning outcomes. Appendix 4 gives an overview of the curricula of both programmes.

Bachelor programme

The bachelor programme consists of a common part (96 credits), a major consisting of courses (42 credits), a thesis (12 credits), and a free choice (30 credits).

In the first two years the curriculum contains courses that help students gain knowledge and develop academic skills. In the first year students take an introduction course to the programme (*Introduction Management and Consumer Studies*). The students also take methodological courses (like *Research Methods in the Social Sciences*). Additionally they follow disciplinary courses (like *Introduction to Business Economics*). At the end of the first and second year, students follow integrating courses which integrate methodological and disciplinary insights (*Analysis of a Problem Situation; Research Topics on Food and Society*).

The issues in the domain can be approached through either management or consumer studies; bachelor students choose one of these majors in their second year. The distribution across the two majors is about 50-50. The *Management Studies* major consists of five obligatory management courses and two blocks of two restricted optional courses. The *Consumer Studies* major consists of six obligatory consumer courses with a sociological or economic perspective and one of two restricted optional courses. The committee wondered whether economics is not a major part in the bachelor programme, as the name of the bachelor programme is 'Management and Consumer Studies', whereas the master degree is called Management Economics and Consumer Studies. In the interviews the committee learned that economics used to be a part of the bachelor programme (management, economics and consumer studies). On recommendation of the previous assessment committee, the economics part was developed into a separate programme. Now, in addition to the programme in Management and Consumer Studies a bachelor programme in Economics is offered.

The bachelor thesis forms the final stage of the major. Students write a 12 credit thesis to show that they understand the domain of the programme in general and their major in particular. Students with a *Management Studies* major write their thesis on business economics, information technology, logistics, management, marketing or consumer technology. Students with a *Consumer Studies* major write their thesis on consumer behaviour, communication, economics of consumers and households, sociology of consumers and households or consumer technology. The committee discussed whether the time and energy that lecturers spend on supervising bachelor theses is worth the investment. Especially because the critical reflection states that the bachelor thesis is often a stumbling block, causing study delay. It became clear to the committee that the programme is very much in favour of keeping the bachelor thesis as it prepares students for the master programme. The committee was reassured by the staff. They indicated they generally like to supervise the bachelor theses. The staff explained that, students are asked to write small papers instead of big reports, to limit the amount of time that is needed for supervision.

In the free choice part (30 credits), that is scheduled in one semester of the third year to make studying abroad easier, students can select a minor or make their own combination of courses, either at Wageningen University or another university. Students can also take the three credit European exchange course and visit one of the European partner universities and write a comparative essay. The committee is of opinion that the scheduling of the free choice part is well organized, but the large number of electives is a potential threat to the coherence of the programme. The critical reflection stresses the importance of the study adviser in making coherent programmes for each individual student.

Master programme

The curriculum consists of a profiling/supporting part (33 credits), a common part (18 credits) and a specialization part (69 credits).

In the profiling/supporting part students select additional disciplinary courses, or advanced research courses, depending on educational background interest and ambition. The specialization part consists of specialization courses, an internship and a thesis. Students can choose from a wide range of specialization courses. There are four specializations that cover the domain. In the last two years, 45% specialized in *Management Studies*, 32% in *Consumer Studies*, 16% in *Economics, Environment and Policy* and 8% in *Management, Innovation and the Life Sciences*. Students take at least two courses for the specialization and one course from the chair group where they will write their thesis. The thesis is a key part in the curriculum according to the critical reflection.

The choices in the specialization part and the profiling/supporting part offer many opportunities for students to develop a study path which fits their personal interests. The study adviser plays an important role in selecting courses that will make a coherent programme. The committee appreciates the coherence within each specialization, but it is of the opinion that the common part of the programme is quite small. It consists of the *Academic Master Cluster*, a course in ethics and a seminar course. During the interviews the committee was told that the number of electives may seem larger than it is, as many electives are restricted optionals and they pointed out that students appreciate the choices they have. At the same time students tend to choose courses from the same chairgroups and end up with quite similar packages. The committee suggests that a bigger common part would help students to identify more with the programme.

Multidisciplinarity

Wageningen University aims to offer programmes with a multidisciplinary and holistic approach. This is meant to stimulate students to develop a broad view and a wide range of interests. Most of the courses are attended by students from different programmes, creating a setting that favours multidisciplinary education. This could also lead to a possible friction between breadth and depth. The committee assessed whether students receive a multidisciplinary programme with sufficient depth, making them experts in a specific discipline.

The subject specific framework states that, given the complexity of the challenges in the agrifood sector, a multidisciplinary approach and a thorough understanding of the socioeconomic and management issues is necessary. In-depth knowledge about the functioning, organization and interactions among the (production and consumption) sub-systems in the life sciences in general and the relation between individual businesses and the agri-food chains and the environment they operate in is needed.

Both programmes aim for an integration of socio-economics disciplines and life sciences. According to the critical reflection, the broad scope is one of the current strengths of both programmes. Graduates have a broad knowledge of different disciplines that helps them to communicate with people from different disciplines, connect these different disciplines and mediate between people. The integration of life sciences is done in the courses, where teachers give examples and use cases that usually come from life sciences. They approach life sciences issues, from a socio-economic perspective. One of the teachers remarked that publications in life sciences usually have to be adjusted by the teachers to use them as study material and integrate life sciences in the courses. This indicates the difficulty of integration.

The critical refection indicates that the two year master programme gives the opportunity to integrate social sciences with the life sciences in the master programme as well. The programme aims to strengthen the integration even more in the future. Within specialization D the integration between social and natural sciences is most visible, as this specialization is designed for students with a life sciences bachelor. The committee believes that breadth and depth are in balance in both programmes, but the link with the life sciences should be more explicit.

Teaching methods

Wageningen University strives to train its students to become academics with domain knowledge, a multidisciplinary attitude, interested in problem-solving, and an international orientation with a multicultural attitude. The programmes therefore work with small, diverse student groups to stimulate the interaction between students and lecturers. A variety of didactic and learning methods are offered, including lectures, tutorials, group work, practical training, excursion and individual papers. In some courses guest lecturers are invited. In consultation with the lecturers, the programme director and the Programme Committee, teaching methods are chosen that are effective in achieving the intended learning outcomes. According to the critical reflection, the teaching methods prepare graduates to work in multidisciplinary teams as well as individually, and often in a global context. The committee appreciates the mix of different teaching methods.

Improvements to the curriculum

The individual Programme Committees are responsible for improving the curricula, although occasionally improvements are introduced for all programmes jointly. One example is the introduction of scheduling of electives in one semester, including minors.

Ideas for improvement usually come from online course evaluations. Detailed results are reported to the lecturers and Programme Committees. Summaries of the results are published on the intranet. In addition to the course evaluations, there are bachelor first-year evaluations, bachelor and master graduate evaluations, career surveys among alumni, and the Education Monitor.

The Programme Committees regularly discuss the outcomes of the evaluations and take action, when considered necessary. In addition to the online evaluations, many programmes hold panel meetings with students to obtain oral feedback on the courses and the programmes. Since many of the programmes are small and the attitude between students and lecturers is informal, many issues are often dealt with informally rather than in a formal procedure.

One of the major changes in the bachelor programme after the last assessment was the separation of (the major) *Economy* into a separate bachelor programme (Economics and Governance). The committee was at first confused about the position of economy in the bachelor programme. During the interviews, the committee learned that the focus is on Management and Consumer studies, but economics still plays a role in the programme. For example, a general course on economics was replaced by *Economics B*, with a stronger focus on behavioural economics. The committee agrees with these choices and believes that the domain of consumer and management studies enables students to focus more, and at the same time, the domain is not too small to offer a broad approach.

Several other improvements have been made in the bachelor programme: regarding the curriculum, the level of English and assessment of theses. In the master programme several improvements have been made as well, such as the development of advanced courses, the transparency of assessment procedures and the relation between courses and intended learning outcomes. The committee is confident that the programme team is continuously improving the programmes.

For the future, the master programme intends to emphasize the multidisciplinary character of the programme by the integration of life sciences elements in the programme even more. The critical reflection also indicates that a larger common basis will be created in the programme to stress the breadth of the programme, and include new integrating elements in the different specializations to strengthen a holistic approach by our students. The committee is positive about these intended changes.

Staff

Wageningen University staff generally teach in several programmes, making it difficult to provide exact student-staff ratios. The estimated student-staff ratio is 9 for the bachelor programme and 9 for the master programme Staff members are required to be both an expert in their discipline and a skilful lecturer. This combination allows them to make use of new scientific insights in their teaching. Most lecturers hold a PhD degree and are members of a graduate school.

The tenure track was discussed, because the critical reflection reports that a potential tension between research and education exists. High standards are set for both activities, which may jeopardize the quality of education. The committee discussed the work pressure of tenure track for lecturers and its consequences for education quality. According to the lecturers the committee talked to, the tenure track does not give too much pressure and does not influence the education in a negative way. They think it adds value for lecturers to be both involved in research and education. It helps the lecturers to formulate more explicitly the results and implications of their research and it helps in keeping the programme up to date. The lecturers the committee spoke with can imagine that if lecturers in the tenure track need to prioritize their activities, they choose for research activities more often than they would choose for the education activities since the performance criteria for education are less clearly formulated. The criteria for the research part are explicit making it easier to see what needs to be done to meet the criteria. According to the lecturers, work pressure in the tenure tracks is reasonable and does not give problems related to the educational programmes. The committee agrees with the lecturers on this point. The critical reflection also indicates that students are very satisfied with the quality, engagement and approachability of staff. This was confirmed by the students the committee talked to during the site visit. The committee was very impressed with the interaction between students and staff.

Wageningen University introduced the University Teaching Qualification (Basis Kwalificatie Onderwijs, BKO) for new permanent staff and staff on tenured track positions. Quality of teaching is evaluated after each course, which also evaluates the course content, position of the course in the curriculum, presentation and examination. Results of these evaluations form input for the annual performance and development interviews of staff members. Tailor-made training courses are provided by the Educational Staff Development unit for those interested, or as a result of the course evaluation.

Programme specific services and student support

Wageningen University has chosen to centralize all teaching facilities like lecture rooms, labs, rooms for group work and the university library on the new campus. The main education building is the Forum. The Orion education building is under construction and will add to the existing facilities in 2013. Most activities in the programmes are located in the Leeuwenborch building, where most education programmes in the Social Sciences are concentrated. Most Social Economic Chair Groups arelocated in the Leeuwenborch Building. Some of the Chair Groups involved in Management, Economics and Consumer Studies provide workplaces for students, to work on their thesis.

Study advisers support students to make well-considered choices within the programme, and they monitor and stimulate study progress. Students meet with their study adviser several times a year, starting from the annual introduction day or even before that day for international students. Students can request appointments, and the study advisers arrange meetings to discuss choices in study programme. The study advisers also invite students for a talk if they evidence a study delay. Along with individual meetings, the study adviser organizes plenary meetings, to inform students about different majors, possibilities in the minor/free choice parts of the bachelor, and about the choice for thesis tracks, thesis and internship in the master programmes. The critical refection indicates that students are very positive about the support offered. This was confirmed by the students the committee talked to during the site visit. The committee believes that the programme specific services are adequate and student support is organized very well.

Student intake, study load, output

Students for the bachelor programmes are admitted on the basis of their pre-university qualifications. Individual admission of students who do not meet the standard requirements is centralized. The general admission requirements of master students are published on the internet, including detailed information on admission procedures. These requirements include a relevant bachelor degree, a grade point average of 70%, fluency in English, good skills in mathematics and statistics, and basic computer skills. Master students are admitted following

approval by the Admission Committee. In total, there are four Admission Committees, reflecting the four domains. These Admission Committees consist of the relevant Programme Directors, supported by central staff. The four Admission Committees participate in the joint Admission Policy Committee. In total, approximately 5,600 applications are handled each year.

Bachelor programme

The intake of students in the bachelor programme shows a steady increase over the last six years. Between 2003 and 2006 about 32 students enrolled and in the last two years over 50 students enrolled.

The critical reflection states that although students indicate that workload in the first year is low, and some course are not very demanding, the examination marks are not very high. To shift the workload from the second year to the first year, the course in *Management and Marketing* was moved to the first year. During the interviews students indicated they think that in general, programmes in natural sciences are more demanding than their own programme. The lecturers the committee talked to argued that programmes in natural sciences are perceived to be more demanding because of the numbers of practicals that students need to attend. Social sciences programmes require more self-study and the lecturers suspect that not all students do all the work. The committee appreciates the steps that have been taken to increase the study load in the initial phase of the bachelor programme and encourages the programme management to monitor the study load carefully and intensify the workload if possible.

About 75% of graduates continue their study with the master programme in Management, Economic and Consumer Studies. They can also enter the Food Quality Management and Leisure, Tourism and Environment master programmes in Wageningen and social economic programmes elsewhere in the Netherlands (e.g. Marketing, Supply Chain Management and Management Studies at Amsterdam, Tilburg and Nijmegen University, respectively). If specific courses are taken in the free choice part, it is possible to enter other master programmes at Wageningen University or elsewhere.

Master programme

Three groups of students enter the master programme: Wageningen bachelor graduates from the Management and Consumer Studies, or the Economics and Governance programme, bachelor graduates from other programmes (often international students) and students with a bachelor's degree from a University of Applied Science. The intake of students varies from year to year but has been above 100 for the last three years.

The study load is balanced over the two years of the master programme. The critical reflection indicates that the internship, *Academic Consultancy Training* and the thesis are considered to be demanding, but vital elements of the programme.

Graduates of the master programme find a job in a wide variety of sectors. The best represented sectors are universities and research institutes (17%), the food production and trade sector (13%), other industries or trade sector (14%), the financial sector (11%) and engineering or consultancy agencies (11%). The most common positions are sales executive (20%), information officer or consultant (15%), researcher (12%), (sales) manager (7%) and PhD candidate (8%). On average graduates need 3.2 month to find a job, which is above the Dutch average of 2.1 month, the jobs they find are mostly on master level. This makes the output very satisfactory to the committee.

2.2 Considerations

The committee has studied the various aspects of the teaching and learning environment of both programmes. In general the committee was impressed with it. Especially the interaction between students and staff is very much appreciated by the committee.

Regarding the bachelor programme the committee is in favour of scheduling the free choice part in one semester and agrees with the programme that the study advisers are very important in making coherent programmes for each individual student. Still, the committee is of the opinion that the large number of electives in the bachelor programme is a potential threat to the coherence of the programme. Regarding the bachelor thesis, the committee started out wondering whether the programme can keep affording this luxury. It is clear to the committee that the thesis is seen as an important part of the curriculum and the committee agrees that the bachelor thesis is a valuable exercise that prepares for the master programme.

The different specializations make the master programme better structured than the bachelor programme. Each specialization is well structured and the courses form a coherent curriculum. Within each specialization, breadth and depth are in balance. The committee recommends a bigger common part in the master programme, which would help students to identify more with the programme. This recommendation is in line with the programmes intentions for the further improvement.

The committee also agrees with the other improvements made to the curricula and is confident that the programme management team is continuously working on improving the programmes. Both programmes aim for an integration of socio-economics disciplines and life sciences. The committee is of the opinion that this is a very valuable goal. It is much better visible in the master programme than in the bachelor programme, still in both programmes the life sciences aspects can be articulated better.

The committee agrees with the lecturers that tenure track related work pressure is not a real threat to education quality. In most cases the courses benefit from the high-quality research that is done by the lectures. The committee is of the opinion that staff quality is very good.

Programme specific services and student support are very well organized and the committee is very positive about it. Student intake and output are good in both programmes. Workload was not an issue in the master programme; complaints from students in the initial phase of the bachelor led to changes in the programme. The committee is positive that steps have been taken to make the bachelor more demanding, but encourages the programme management to monitor the study load carefully and possibly make it even more demanding.

Although differences exist between programmes, all Wageningen programmes provide a lot of freedom for the individual student, making the programmes student-centred. The chair groups and their research strongly influence the courses offered, making the programmes also course-oriented. This makes the position of the study adviser crucial and demands certain qualities of him/her. The committee thinks that the study adviser should be a member of the academic staff to be able to support students in their choice for certain courses.

Overall, the committee is positive on the teacher learning environment of both programmes. The bachelor programme is almost as good as the master programme, but the committee feels that in the bachelor programme there is more room for further improvement, on the coherence of the programme, and the dividing of the workload over the three years. This is reflected in the assessment of this standard 2. The programme team is already working on these issues and the committee is confident this will result in a strong teacher learning environment.

2.3 Conclusion

Bachelor programme in Bedrijfs- en Consumentenwetenschappen: the committee assesses Standard 2 as satisfactory.

Master programme in Management, Economics and Consumer Studies: the committee assesses Standard 2 as good.

Standard 3: Assessment and achieved learning outcomes

The programme has an adequate assessment system in place and demonstrates that the intended learning outcomes are achieved.

Explanation:

The level achieved is demonstrated by interim and final tests, final projects and the performance of graduates in actual practice or in post-graduate programmes. The tests and assessments are valid, reliable and transparent to the students.

3.1 Findings

Assessment system

For each course the lecturers have to formulate five to eight intended learning outcomes, which are published in the Study Handbook and course guides. The course guide is obligatory for each course and explains what a course is about, how it is organized, and how students are expected to participate. Part of the course guide covers the assessment strategy, for which requirements have recently been introduced. The assessment strategy clarifies how and when a learning outcome is assessed, who is involved in assessing students, and how the final mark will be determined. It also shows the transparency and validity of the assessment. To enhance the reliability of the assessment, examiners need to explain which elements in the student's answers lead to a certain mark. For multiple choice questions this is embodied in the answer key, and for open answer questions this is shown by model answers, assessment criteria or rubrics (for an example, see Appendix 9). The previous practice was similar to the new theory, but had a less formalized manner. Currently, all Wageningen programmes are in the transition phase from the previous practice to the new situation.

The committee was pleased to receive an overview of the intended learning outcomes in the critical reflection which not only showed what courses contributed to the intended learning outcomes, but also in which courses they are assessed. This showed that all intended learning outcomes are assessed in several courses, in both the bachelor and the master programme.

With the changes in the Higher Education and Research Act, the position of the Examining Boards has changed. They are currently in the process of strengthening their role in assuring the quality assessment, both via interim course exams and the evaluation of internships and theses. The new role of the Examining Boards has two elements. The first is that each examiner will be made explicitly responsible for ensuring that an assessment of a course is valid, reliable and transparent. This was made a regular part of the University Teaching Qualification. Wageningen University produced documents to help examiners and lecturers achieve this, and meetings between the Examining Boards and examiners were held in the spring of 2011. The second element is that the Examining Boards will visit chair groups on a regular basis to verify the quality of assessment of courses provided by the groups. Additional visits will take place when required, for example when indicated by the results of course evaluations.

The committee learned during the site visit that students can do many resits for each course if they don't pass the first time. Each year three exam possibilities are offered for each course, and students can retake the exam as often as needed to pass.

Bachelor programme

The committee studied the variety of assessment methods. It showed a focus on written exams and group work, making the bachelor thesis one of the first times that individual

writing is assessed. From the interviews with lectures, the committee learned that they try to incorporate more individual writing, but its assessment is time consuming. The critical reflection indicated that the bachelor programme values the experience of group work for students, but has difficulty in justifying differentiation between students. The programme is working on ways to assess group work. The committee agrees that group work is important, but it recommends assessing individual writing throughout the bachelor programme, as it will improve students writing skills.

Master programme

The critical reflection stated that in advanced courses are usually assessed with a combination of a written exam and assignments or a small research project. The assessment of the internship is based on the report that students write and present and always, by the university supervisor, one of the lecturers. The committee has established that the assessment system is well- organized.

Quality and assessment of the thesis work

The thesis work is always graded by two assessors: the supervisor and the examiner. Both are present during the presentation and final discussion of the thesis. In the study year 2011-2012 the assessment procedure for the thesis will be further improved by developing a rubric. A rubric is an assessment tool based on a set of criteria and standards linked to learning outcomes that is used to assess or communicate about product, process and performance. The rubric provides guidelines for the thesis evaluation. In Appendix 9 an example of a rubric is provided. The committee appreciates that the Chair Group holders check all these written at their chair group on comparability and consistent grading.

Prior to the site visit, the committee members received a total of 14 recent bachelor theses and 17 master theses selected from a list in the critical reflection of all theses that were completed over the last two years. The selection was done by the secretary on behalf of the chairman. When selecting the theses, the grading and graduation date were considered. Student numbers of the selected theses are provided in Appendix 7. For all the theses the committee read and analysed the thesis reports and assessments forms. The use of an assessment form filled out by the supervisor has only recently been introduced, all theses had one.

Bachelor programme

Since 2002 a thesis is included as the final part of the bachelor programme in Management and Consumer Studies. For the assessment of a thesis in the social science bachelor programmes of Wageningen University a standard form is used. Criteria for the assessment of a bachelor thesis in the social sciences programmes are: research competencies (30-40%), report (50-65%), presentation (0-5%) and final discussion/examination (5%). The weight of each criterion is determined after approval of the research/project proposal.

The committee considered the bachelor thesis of adequate quality and generally agreed with the grades given by the examiners. The bachelor theses generally used qualitative analytical methods to examine the relevance of theory to observation.

Master programmes

For master programmes, the thesis, internship and Academic Master Cluster (AMC) form important parts of the learning outcomes. For the assessment of a master thesis a standard form is used throughout Wageningen University. There is an extensive assessment format for the AMC to evaluate each student's individual contribution to the final product and collaborative process. It aims at securing grading reliability across the large number of teams participating each year. For the internship an assessment form is used which is common to all programmes. An external and an internal supervisor are appointed for the internship: the external supervisor advises on the quality of the student's performance, the internal supervisor grades the internship. Students are advised to do an internship internationally and write the thesis in Netherlands to enable supervision with face to face contact. The committee considered the master theses of very good quality and considered the grading as consistent. The master theses, for the most part, applied quantitative analytical methods appropriate to the skill level of a masters degree student. During the interviews, students reported that it is difficult to get a high grade on the thesis, and the lecturers confirmed this. For example, to get a nine (out of ten) the research project should be publishable. This raises a high bar, but the committee believes it is not too high and will prepare students for a PhD.

Success rates

The success rates have increased over the past five years, but they are still quite low in the bachelor programme, according to the committee. The critical reflection states it is on Wageningen university average and it explains that it used to be possible to start the master programme without finishing all elements of the bachelor programme. The success rates in the maser programme have increased over the last years as well and the committee thinks they are quite good. Further increase in success rates is expected as students are motivated to finish their studies in time due to financial constraints. Appendix 5 gives an overview of the success rates.

3.2 Considerations

The committee is very positive with regard to the initiatives Wageningen University is currently implementing in the bachelor and master programmes. The Examining Boards are in the process of strengthening their role in ensuring the quality of assessment and seem committed to formalizing the assessment system. The committee agrees that having only four Examining Boards is stimulating the consistency and equality of the procedures. However, these four Examining Boards are responsible for a total of 49 programmes. The committee is worried that the limited number of Examining Boards leads to a certain distance from the programmes, making it difficult for the Examining Boards to really be in control at the programme level.

The assessment system has undergone some changes that have improved it. The committee is very positive on the assessment system, and believes it is well-organized, especially for the master programme. Regarding the bachelor programme it recommends assessing individual writing skills more often. Although the committee understands that it is time-consuming, it believes it will strengthen the writing skills of students.

The committee is of the opinion that with the current pressure on graduating in time in the Netherlands, the number of possible resits at Wageningen University is outdated. If students don't feel the need to pass an exam, they might not take the exam seriously. Chances are that this will lead to study delays.

The committee generally agrees with the grades given to both bachelor and master thesis. It is positive on the quality of the thesis, especially the master theses. The success rates have increased in both programmes and are expected to increase even further. The success rates in the bachelor are quite low; the master programme has good success rates.

3.3 Conclusion

Bachelor programme in Bedrijfs- en Consumentenwetenschappen: the committee assesses Standard 3 as satisfactory.

Master programme in Management, Economics and Consumer Studies: the committee assesses Standard 3 as good.

General conclusion

Based on the assessments given for the three standards, the committee is positive about both programmes. The committee is of the opinion that the programmes have the quality that can reasonably be expected in an international perspective from a higher education bachelor or master programme. The committee has made a few remarks and suggestions on both programmes for further improvement. Its primary advice is to be more explicit on the life sciences aspects in the documentation.

Conclusion

The committee assesses the bachelor programme in Bedrijfs- en Consumentenwetenschappen as satisfactory.

The committee assesses the master programme in Management, Economics and Consumer Studies as good.

APPENDICES

Appendix 1: Curricula vitae of the members of the assessment committee

Professor Frans Zwarts was Rector Magnificus of the University of Groningen between 2002 and 2011. He studied linguistics at the University of Amsterdam (1967-1973) and at the Massachusetts Institute of Technology (1974), and wrote a doctoral dissertation on Categorical Grammar and Algebraic Semantics (cum laude). He was appointed lecturer at the University of Groningen in 1975 and became Professor of Linguistics in 1987. He was the initiator of the European Summer School in Logic, Language and Information (ESSLLI) in 1989. In 1992, Zwarts was a visiting scholar at UCLA (University of California, Los Angeles). Between 1995 and 2002, he was chair of the Netherlands Steering Committee for Research on Developmental Dyslexia, initiated by the NWO as part of a multidisciplinary national research programme. In 1999, he became academic director of the Graduate School of Behavioural and Cognitive Neurosciences of the University of Groningen. In 2003, he and the Rector Magnificus of Uppsala University established a close partnership between Groningen and Uppsala. This was extended in 2006, when the Universities of Ghent, Göttingen, Groningen, and Uppsala decided to form the U4. In 2011 he was appointed professor and manager to realise the University Campus Fryslân.

Mrs. Renate Prenen, MSc, is educational advisor and independent entrepreneur educational advice. She studied Applied Educational Sciences at Twente University. She worked at Randstad secretarial bureau as advisor and programme manager. Later, she worked at the Academic Medical Centre (AMC) of the University of Amsterdam, where she was educational advisor. One task was to participate in research on learning requirements, obstacles and motivation for evidence-based medicine for family doctor trainers, teachers and family doctors in training. In September 2009 she started as an independent educational advisor. She has been a committee member on other QANU assessment committees.

John Braden is Professor Emeritus of Environmental Economics in the Department of Agricultural and Consumer Economics (ACE), University of Illinois at Urbana-Champaign. Dr. Braden joined the University of Illinois in 1979 and was promoted to Professor in 1989. At the University, he previously served as Director Undergraduate Programs and Director of Graduate Studies in ACE, Director of the Illinois Water Resources Center (1994-1998 and 2002), Director of the Environmental Council (1999-2002), and Associate Provost (1998-2001). Professor Braden is most recognized for his studies of dispersed-source water pollution and environmental valuation, having worked also on air quality, river management, and energy economics. In the 1980s, with environmental engineers, he developed spatially-detailed simulation and optimization models to study the targeting of incentives for pollution mitigation. His recent work has emphasized economic valuation of environmental change with applications to the Great Lakes and urban development. Professor Braden is the author, co-author, or editor of more than 150 scholarly papers including six books, 40 chapters, and 70 journal articles. His work appears in economics, engineering, legal, and interdisciplinary publications.

Mrs. Elisabeth Lefebvre is full professor and Director of the Epoly Centre of the Ecole Polytechnique de Montreal (Canada). Her research interests are technological innovation and performance, virtual enterprise and electronic commerce, determinants for exportation, SMEs informatization and automization, Management of technology, technological choices and Radio Frequence Identification.

Mrs. Liliya Ivanova, BSc is a master student in Economics at the University of National and World Economy. As a Member of the Executive Committee of ESU (European Students' Union), she is responsible for the execution of the decisions of the Board of ESU, political affairs (mainly those related to quality assurance field) and the overall finances of ESU.

Wim Verbeke is professor in agro-food marketing and consumer behaviour, and chairman of the Department of Agricultural Economics at Ghent University in Belgium. He is involved in academic teaching and scientific research in the field of food marketing and food consumer science. In this position, he uses his combined background in natural and social sciences to bridge between social and natural sciences. His core teaching includes an "Economics" course at bachelor level, as well as Master-level courses on "Food marketing and consumer behaviour", "Food and nutrition policies", "Advanced marketing and agribusiness management", "Applied rural economic research methods". His specific research interests are on the impact of information about food production and food processing systems, about food quality, safety and health, food labelling, and the role of individual difference variables on consumer perception, attitude and behaviour. Wim Verbeke leads a multidisciplinary team of 8 postdoctoral and doctoral researchers. The team is a partner in several European and national research projects dealing with food consumer issues. Wim Verbeke has co-authored more than 200 peer-reviewed papers in leading international journals in the disciplines of agricultural economics and policy, agricultural sciences, marketing, communication, food science and technology, and nutrition and dietetics.

Appendix 2: Domain-specific framework of reference

General requirements

The rapidly growing world population and growing welfare in emerging countries lead to an increasing demand for food, energy and natural resources. Food production, supply of bioenergy and protection of biodiversity lead to high pressure on available resources and strong competition for land and natural resources, including fossil fuel, water, forests and fish stocks. Greenhouse gas emissions lead to global warming and at the same time the international economic setting is rapidly changing as a result of globalization. Society is faced with the need to make a shift towards sustainable production and consumption in an effective and efficient manner.

Given the complexity of these challenges a multidisciplinary approach and a thorough understanding of the socio-economic and management issues is necessary. In-depth knowledge about the functioning, organization and interactions among the (production and consumption) sub-systems in the life sciences in general and the relation between individual businesses and the agri-food chains and the environment they operate in is needed. Agri-food chains comprise of all activities from production, through processing to consumption of food and other agricultural products. Agri-food chains are of great importance to the Netherlands being the second biggest exporter in the world with mainly agricultural and food products. 10% of the Dutch economic activities is directly related to agri-food chains. The agri-food sector is a core sector in innovation for the Dutch government as indicated by Porter (1990) in his report on the competitive advantage of nations. The agri-food sector is also highly relevant for many less developed countries where agriculture often constitutes a large share of national GDP.

Activities in the agri-food chain have life sciences aspects: How do crops grow best? How can the shelf-life of agri-food products be extended? As well as socio-economic aspects: How do different agri-food chains and markets function and which products are in demand? Which aspects of chain governance, environmental care and sustainable development play a role? Both in management practice, marketing, and policy debates a broad range of topics and disciplines are important. This is why a typical programme in Management, Economics and Consumer Studies has to be both problem-oriented and multidisciplinary in nature. Social, economic and management theories are all needed to understand the basic processes to effectively manage agri-food chains to produce the products in demand by the consumer in a sustainable way. Management theories contribute by studying the planning, organization, staffing (including staff motivation) and leading and directing of companies within the agrifood sector needed of the production, distribution and consumption of goods and services. Governance theories are important to understand the motivation and needs of the consumer and develop effective consumer driven chains.

Academics in this field contribute to solving complex matters in the agri-food chain such as: How can we produce enough, safe and affordable food? Which strategies can be applied to mitigate the effect of climate change? Which issues need to be addressed to reduce the burden of competing claims on land for food, fuel and biodiversity? How do individual household make decisions in the light of changes on the global food market? How can the global food industry answer to increasing demands for higher standards in food safety and environmental and social sound production? Which role should the agri-food industry play in food related problems? How can management and marketing contribute to the Millennium Development Goals to eradicate poverty and food shortages and protect biodiversity? How can sustainable consumption be increased?

To achieve this, students in this domain are required to develop the following skills, knowledge and attitude:

- Apply advanced theories on the functioning and organization of, and interactions within (inter-)national agri-food chains and the environment they operate in with a special focus on management, economics or consumer science;
- Conduct research and reflect on research on global agri-food chains and the environment they operate in using a social, economic, and managerial perspective within a beta-gamma (life sciences) context;
- Apply analytical skills and a professional working attitude needed to work in this domain;
- Translate research findings into relevant information for policymakers and actors in the international agri-food sector.

Appendix 3: Intended learning outcomes

		After successful completion of the programme students are expected to be able to:	Dublin Descriptor
Domain specific knowledge and understanding and applying that knowledge and	1	Explain theories on the managerial, economic, environmental and social aspects of the production and consumption of food within households and businesses, with a focus on business and consumer science	Knowledge & understanding
	2	Reflect on issues in regional, national and global agri-food chains and the environment* they operate in from a multidisciplinary perspective	Knowledge & understanding
understanding	3	Analyse the outcome of selected policies regarding sustainable agri-food chains	Making judgements
4 Depending on the major, the student is expected to have additional experien 1 Analyse global issues with the use of <i>business science</i> theories 2 Analyse global issues with the use of <i>consumer science</i> theories		Applying knowledge & understanding	
Scientific learning	5	Apply knowledge by writing a research design on agri-food chains including the main phases of a scientific research or design process, under supervision	Learning skills
outcomes (research)	6	Analyse concepts, approaches and methods and reflect on scientific literature, with special reference to agri-food chains under supervision	Making judgement
	7	Gather and interpret relevant data in the field of agri-food chains using techniques like sensory research to solve problems like changing consumer attitudes, with some supervision	Applying knowledge and understanding
Domain specific skills	8	Apply socio-economic analytical measurements, mathematical and statistical methods	Learning skills
academic learning outcomes 10 Cooperate closely in a team of students 11 Communicate (verbally and in writing) i non-specialist audiences using oral pres 12 Design and plan a personal learning pat	Make judgements based on social and ethical issues which arise in work or study of agri-food chains	Making judgements	
	10	Cooperate closely in a team of students to achieve multidisciplinary research	Communication
	11	Communicate (verbally and in writing) ideas, problems and solutions to both specialist and non-specialist audiences using oral presentations, reports and debating techniques	Communication
	12	Design and plan a personal learning path (under supervision) based on continuous evaluation of personal knowledge, skills and performance to stimulate lifelong learning	Learning skills

Bachelor programme in Bedrijfs- en Consumentenwetenschappen

Master programme in Management, Economics and Consumer Studies

		Learning outcomes After successful completion of the programme students are expected to be able to:	Dublin descriptors
Domain specific knowledge and understanding and applying that	1	Apply advanced theories on the workings of, and organization of, and interactions within (inter-)national agri-food chains and the environment they operate* in, with a special focus on management, economics or consumer science	knowledge and understanding & applying knowledge and understanding
knowledge and understanding	2	Reflect on research on the agri-food chain from a management, economics and consumer science perspective within a beta-gamma (life sciences) context	Applying knowledge and understanding
	3	Appraise the outcome of selected policies regarding sustainable agri-food chains	Making judgements
	4	 Depending on the specialization, the student has additional experience to: 1 Judge the usefulness of different <i>management</i> theories and practices to optimize processes in the global (agri-food) business 2 Assess changing attitudes, perceptions and preferences of <i>consumers</i> to optimize global (food) chains 3 Evaluate applied <i>economic</i> theories to optimize environmental, agricultural and international policies 4 Review processes in the <i>life sciences</i> industry from a technical-managerial perspective 	Applying knowledge and understanding and/or making judgements
Scientific learning outcomes	5	Develop a research design in the field of agri-food chains and critically reflect on the phases of a scientific research or design process	Learning skills
(research)	6	Analyse advanced and complex concepts, approaches and methods and reflect on scientific literature, with special reference to agri-food chains	Making judgements
	7	Carry out research in the field of agri-food chains by using suitable methods & techniques to collect and interpret data	Applying knowledge and understanding
Domain skills	8	Apply advanced socio-economic analytical measurements, mathematical and statistical methods	Applying knowledge and understanding
General academic learning outcomes	9	Respond to social, scientific and ethical issues that are encountered in work or study on agri-food chains through (scientific) publications or debate	Making judgements
	10	Cooperate as a specialist in an interdisciplinary, international team to solve issues that affect agri-food chain	Communication
	11	Communicate research outcomes, methods and underpin rationale to specialists and non-specialists audiences using oral presentations, (scientific) publications, workshops, reports, and posters	Communication
	12	Design and plan own learning processes based on continuous reflection upon personal knowledge, skills, attitudes and performance to stimulate lifelong learning	Learning skills

* Further referred to as `aori-food chains'.

Course code	Course name	Credits	Year-period	Lectures	Tutorials	Practicals	Other*
Common Part							
MAT-12806	Mathematics M (Mathematics for Social Sciences)	6	B1-1		36	12	
MCB-11306	Introduction to Management and Consumer Studies	6	B1-1	12	24		1
MST-24306	Management and Marketing	6	B1-2	18		12	18
RSO-10306	Sociology	6	B1-2	34		9	
YRM-10306	Research Methods in the Social Sciences	6	B1-3	14	24		
LAW-12306	Legal Regulation and Management of Production Chains	6	B1-4	10	14		
BEC-10306	Introduction to Business Economics	6	B1-5	40		30	16
PDQ-10306	Introduction to the Life Sciences	6	B1-5	24	40	19	
MAT-15303	Statistics 1	3	B1-6		25	12	
MAT-15403	Statistics 2	3	B1-6		25	12	
YSS-10906	Analysis of a Problem Situation	6	B1-6		17	42	38
MCB-20806	Principles of Consumer Studies	6	B2-1	32			8
ORL-20306	Decision Science 1	6	B2-1		48	12	
ECH-10406	Economics B	6	B2-2	24	24		
YSS-20306	Quantitative and Qualitative Research Techniques (in the Social Sciences)	б	B2-2	6	30	12	
INF-20806	Applied Information Technology	6	B2-6	20		40	
PDQ-23306	Research Topics on Food and Society, a Gamma-Beta Approach	6	B2-6	12			40
Major Manager	ment Studies						
MST-21306	Advanced Management and Marketing	6	B2-3	30	12		5
MST-24806	Supply Chain Management	6	B2-4	30			6
MST-32306	Strategic Change Management and Innovation	6	B2-5	12	12		27
ECH-31306	Consumer Decision Making or	6	B2-5	24			16
ORL-30306	Decision Science 2	6	B2-5		40	20	
AEP-20306	Economics of Agribusiness	6	B3-1	24	24	20	
BEC-22806	Accounting	6	B3-1	24	12	12	6
YSS-81812	BSc Thesis Management Studies	12	B3-2-3				5
BEC-20806	Financial Management in Agriculture or	6	B3-2	18		30	
BEC-22306	Corporate Financial Management	6	B3-2	24	12	12	6
Major Consum							
SCH-20806	Lifestyles and Consumption	6	B2-3	24			16
MCB-30306	Consumer Behaviour: Concepts and Research Methods	6	B2-4	24	10	10	
ECH-22306	Economics of Consumption, Welfare and Society	6	B2-5	24			8
ECH-31306	Consumer Decision Making	6	B2-5	24			16
MCB-20306	Applied Consumer Studies	6	B3-1	20	39		12
COM-21806	Communication & Persuasion	6	B3-2	24			
YSS-82312	BSc Thesis Consumer Studies	12	B3-2-3				5
AEP-20306	Economics of Agribusiness or	6	B3-1	24	24	20	
ENR-20306	Environmental Economics and Policy	6	B3-3	24	16		8

Bachelor programme in Bedrijfs- en Consumentenwetenschappen

* Field excursions, group work and supervision individual assignments.

Master programme in Management, Economics and Consumer Studies

Course code	Course name	Credits	Year- period	Lectures	Tutorials	Practicals	Other ³
Common part							
Select 1 out of 2							
APP-20803	Food Ethics	3	M1-2/5	4	8		
APP-20303	Ethics and Social Science	3	M1-5/6	4	8		
YMC-60303	Modular Skills Training (MOS)	3	M1/2-1-6				3
YMC-60809	Academic Consultancy Training	9	M1/2-1-6				4
YSS-30803	Seminar	3	M1/2-1-6	2	20		
Specialization /	A-Management Studies						
Select 1 out of 2							
MST-30306	Technology, Innovation and Strategy	6	M1-5	14	2	18	
ORL-31306	Advanced Supply Chain Management	6	M1-5	24	12	28	
Select 1 out of 6							
BEC-30306	Advanced Agricultural Business Economics	6	M1-6	18	12	12	
INF-31306	Information Systems	6	M1-6	8		8	1
MST-31306	Case Studies Management/Advanced Business Strategy	6	M1-1	4	4		1
MCB-31306	Selected Themes in Marketing and Consumer Behaviour	6	M1-6	12			2
ORL-30806	Operations Research and Logistics	6	M1-6		50	10	
MST-31806	Advanced Facility Management	6	M2-2	12	6		
MSc Internship	p Management Studies	24	M2-1-6				
MSc Thesis Ma	anagement Studies	33	M2-1-6				1
Specialization I	B-Consumer Studies						
Select 1 out of 2							
MCB-30806	Sensory Perception and Consumer Preference	6	M1-5	26			2
SCH-21306	Demography and Global Population Issues	6	M1-5	24			1
Select 1 out of 4							
COM-32806	Communication Strategies in Everyday Life	6	M1-2	12	6		2
MCB-31306	Selected Themes in Marketing and Consumer Behaviour	6	M1-6	12			2
ECH-30306	Economics and Sociology of Consumers and Households	6	M1-6	12		24	
SCH-22806	Consumer and Technology	6	M1-2	16	17		2
MSc Internship	p Consumer Studies	24	M2-1-6				
MSc Thesis Co	nsumer Studies	33	M2-1-6				1
Specialization (C-Economics, Environment and Governance						
Select 1 out of 2							
AEP-30806	Economic Models	6	M1-6	32	36		
ENP-32306	Advanced Environmental Economics and Policy	6	M1-5	12	14		
Select 1 out of 5	· · · · · · · · · · · · · · · · · · ·						
AEP-30306	Agricultural, Rural and Regional Policy Analysis	6	M1-5	24	24		
DEC-30306	Central Themes in Development Economics	6	M1-5	24			
ENR-30306	Theories and Models in Environmental Economics	6	M1-6	24	24		1

The teaching methods $^{\scriptscriptstyle 1}$ in the curriculum $^{\scriptscriptstyle 2}\textbf{.}$

1 Table gives contact-hours per teaching method per course.

2 Part of the curriculum consist of the profiling/supporting part. Size and content depends on the background and selection of the student

3 Field excursions, group work and supervision individual assignments.

Course code	Course name	Credits	Year- period	Lectures	Tutorials	Practicals	Other ³
ENP-32806	Sociological Perspectives on Environmental Change	6	M1-5	8	40		
PAP-30306	Designing Innovative Policy Arrangements	6	M1-6	12	24		24
MSc Internshi	p Economics, Environment and Governance	24	M2-1-6				5
MSc Thesis Ec	onomics, Environment and Governance	33	M2-1-6				10
Specialization I	D-Management Innovation and Life Sciences						
MST-23806	Introduction to Management and Life Sciences	6	M1-1	24			12
YRM-20806	Research Design & Research Methods	6	M1-1		48		
Select 1 out of 3	themes						
Theme D1-Mang	ement of Innovations						
MST-24806	Supply Chain Management	6	M1-2	30			6
MST-21306	Advanced Management and Marketing	6	M1-3	30	12		5
MST-30306	Technology, Innovation and Strategy	6	M1-5	14	2	18	
Select 1 of 2 sub	-themes						
D1a-Managemen	at Studies						
MST-31306	Case Studies Management/Advanced Business Strategy	6	M1-1	4	4		12
MST-23406	New Venture Creation: from Idea to Business Plan	6	M1-5	16	15	15	8
D1b-Marketing a	nd Consumer Bahaviour						
MCB-20806	Principles of Consumer Studies	6	M1-1	32			8
MCB-31306	Selected Themes in Marketing and Consumer Behaviour	6	M1-6	12			24
Theme D2-Innov	ation in Decision Support and Economics						
BEC-22806	Accounting	6	M1-1	24	12	12	6
ORL-20306	Decision Science 1	6	M1-1		48	12	
Select 1 of 3 sub	-themes						
D2a-Operations	Research and Logistics						
ORL-30306	Decision Science 2	6	M1-5		40	20	
ORL-30806	Operations Research and Logistics	6	M1-6		50	10	
D2b-Information	Technology						
INF-31306	Information Systems	6	M1-6	8		8	15
ORL-30306	Decision Science 2	6	M1-5		40	20	
D2c-Business Ec	onomics						
BEC-30306	Advanced Agricultural Business Economics	6	M1-6	18	12	12	
Select 1 out of 2	courses						
BEC-22306	Corporate Financial Management	6	M1-2	24	12	12	6
BEC-20806	Financial Management in Agriculture	6	M1-2	18		30	
Theme D3-Innov	ation in Operations Management						
MST-24806	Supply Chain Management	6	M1-2	30			6
ORL-20306	Decision Science 1	6	M1-1		48	12	
MST-21306	Advanced Management and Marketing	6	M1-3	30	12		5
ORL-31306	Advanced Supply Chain Management	6	M1-5	24	12	28	
	sub-themes/courses						
ORL-30806	Operations Research and Logistics	6	M1-6		50	10	
MST-31306	Case Studies Management/Advanced Business Strategy	6	M1-1	4	4	10	12
INF-31306	Information Systems	6	M1-6	8		8	15
	p Management, Innovation and the Life Sciences	24	M2-1-6	-		-	5
	anagement, Innovation and the Life Sciences	33	M2-1-6				10

Data on intake, transfers and graduation

Bachelor programme in Bedrijfs- en Consumentenwetenschappen

Success rates								
Cohort	2003	2004	2005	2006	2007	2008	2009	2010
Size at the outset	31	34	32	34	38	40	47	53
Size of re-enrolment T+1	27	28	28	32	33	39	43	
Diploma after 3 years (%)	15	4	18	19	27			
Diploma after 4 years (%)	48	39	50	47				
Diploma after 5 years (%)	70	61	75					
Diploma after 6 years (%)	81	71						
Diploma after 7 years (%)	89							
Drop-outs 1 October 2010 (%)	11	11	4	6	3	0		

Master programme in Management, Economics and Consumer Studies

Success rates								
Cohort	2003	2004	2005	2006	2007	2008	2009	2010
Size at the outset	104	57	74	106	90	126	135	133
Diploma after 2 years (%)	55	68	80	82	80	87		
Diploma after 3 years (%)	77	88	91	97	90			
Diploma after 4 years (%)	83	88	92	97				
Diploma after 5 years (%)	85	88	96					
Drop-outs 1 October 2010 (%)	14	11	3	3	8	2	3	

Teacher-student ratio achieved

For Wageningen University the average student/staff ratio lies between 5.5 and 12.5 for bachelor programmes, and between 5.5 and 10 for master programmes.

For the bachelor programme in Bedrijfs- en Consumentenwetenschappen the student/staff ratio is 9. For the master programme in Management, Economics and Consumer Studies, the student/staff ratio is 9.

Average amount of face-to-face instruction per stage of the study programme

Year	Contact hours	Contact hours (% of 1680)
B1	578	34
B2	486	29
B3	506	30
M1	602	36
M2	30	2

Number of programmed contact hours

Appendix 6: Programme of the site visit

6 June 2012 13.00 – 14.00	Expert members: instructions on NVAO framework (incl. Lunch)
14.00 - 15.30	Preparatory meeting committee (discussing CR)
15.30 - 16.30	Management (responsible for content of the programme)
15.50 - 10.50	
	Prof.dr. S.W.F. (Onno) Omta (Chair Holder Management Studies and Chair Executive Board and Programme Committee)
	Ir. E.P (Edwin) Kroese (Programme Director and Secretary Executive Board and
	Programme Committee)
	Dr.ir. C. (Koos) Gardebroek (Associate Professor Agricultural Economics and Policy, Staff Member Programme Committee and Member Working Group Critical
	Reflection)
16.30 - 16.45	Break
16.45 – 17.45	Students BBC MME T. (Thijs) Verheul (BBC 2011)
	S.D.L. (Simone) Ritzer (BBC 2010)
	F. (Frans) van den Brink (BBC 2009)
	E.A.R.M. (Ellis) Delahay (MME 2010, BBC graduate)
	T.F. (Tamara) Breman (MME 2009, Bachelor graduate University of Professional
	Education) S. (Steven) van Polen (MME 2010, BEB graduate)
	D. (Dari) Raykova (MME 2010, External BSc graduate Foreign University)
	L. (Li) Tian (MME 2011, External BSc graduate Foreign University)
19.00 uur	Diner
7 June 2012	
9.00 - 10.00	Lecturers BBC MME
	Prof. dr. G. (Gerrit) Antonides (Chair Holder Economics of Consumers and
	Households) De HWIL (Taire) and Carriet at Defense Methodies and Carry and
	Dr. H.W.I. (Erica) van Herpen (Assistant Professor Marketing and Consumer Behaviour)
	Dr. ir. M.P.M. (Miranda) Gielen-Meuwissen (Associate Professor Business
	Economics)
	Dr. J.H. (Jacques) Trienekens (Associate Professor Management Studies)
	Dr. J.M. (Jacqueline) Bloemhof-Ruwaard (Associate Professor Logistics Decision & Information Sciences)
	Dr. ir. L.P.A. (Bea) Steenbekkers (Assistant Professor Product Design and Quality
	Management)
	Prof. dr. E.C. (Ekko) van Ierland (Chair Holder Environmental Economics and
	Natural Resources) Prof. dr. ir. C.J.A.M. (Katrien) Termeer (Chair Holder Public Administration and
	Policy)
10.00 - 10.15	Break
10.15 - 10.45	Programme Committee BBC MME
	Dr. H.M. (Hilje) van der Horst (Assistant Professor Sociology of Consumers and Households)
	Ir. G.D.H. (Frits) Claassen (Assistant Professor Logistics Decision & Information
	Sciences)
	Dr. ir. R.A. (Rolf) Groeneveld (Assistant Professor Environmental Economics and
	Natural Resources) H. (Hasse) Cox (MME 2010, BBC graduate)
	L.J.L. (Lisa) Ploum (MME 2011, BBC graduate)
	N. (Nick) Rothengatter (MME 2010, BEB graduate)

E.F. (Eva) Fredriks (BBC 2009)

E. (Egbert) Bakker (MME 2011, Bachelor graduate University of Professional Education)

- 11.30 12.00 Final meeting with management (final responsibility for programme) Prof.dr. S.W.F. (Onno) Omta (Chair Holder Management Studies and Chair Executive Board and Programme Committee) Ir. E.P (Edwin) Kroese (Programme Director and Secretary Executive Board and Programme Committee) Dr.ir. C. (Koos) Gardebroek (Associate Professor Agricultural Economics and Policy, Staff Member Programme Committee and Member Working Group Critical Reflection)
 12.00 – 12.30 Lunch
- 13.30 13.45 **Presentation of the preliminary findings by committee chair**

Programme for Kick-off meeting, 21 February: Common part of critical reflections

- 09.00 09.15 Welcome by the Rector and the Director of the EI¹
- 09.15 11.00 **Preparatory meeting of assessment panel**
- 11.00 12.15 General management programmes:
 - P. (Paulien) Poelarends (member, Board of the EI)
 - R.A. (Rosella) Koning (member, Board of the EI)
 - Prof. T.W.M. (Thom) Kuyper (member, Board of the EI)
 - Prof. L.E. (Leontine) Visser (member, Board of the EI)
 - Prof. E.W. (Pim)Brascamp (Director of the EI)
 - J.J. (Jan) Steen (Quality assurance and enhancement officer)
- 12.15 12.45 Lunch

12.45 – 13.30 Study Advisers:

Dr. A.E.M. (Anja) Janssen (BSc and MSc Food Technology, Food Safety, Food Quality Management)

C.M. (Neeltje) van Hulten (BSc and MSc Agriculture and Bioresource Engineering)

C.Q.J.M. (Stijn) Heukels (BSc and MSc Landscape Architecture and Planning) W.T. (Willy) ten Haaf (MSc Geo-Information Science)

Dr. W. (Wouter) Hazeleger (MSc Animal Sciences) [not present]

R.N.M. (Gineke) Boven (BSc Management and Consumer Studies)

13.30 – 14.30 Examining Boards:

Dr. P.B.M. (Paul) Berentsen (secretary, EB² Social Sciences)
Dr. M.C.R. (Maurice) Franssen (secretary, EB Technology and Nutrition)
C.P.G.M. (Lisette) de Groot (chair, EB Technology and Nutrition)
Dr. D. (Dick) van der Hoek (secretary, EB Environment and Landscape)
Dr. K. (Klaas) Swart (secretary, EB Life Sciences)
Prof. W (Willem) Takken (chair, EB Life Sciences)

14.30 – 14.45 Break

14.45 – 15.45 Lecturers of Programme Committees:

Dr. A.J.B. (Ton) van Boxtel (Biotechnology and Bioinformatics)

- Dr. J. (Jan) den Ouden (Forest and Nature Conservation)
- Dr. K.B.M. (Karin) Peters (Leisure, Tourism and Environment)
- Dr. W.A.H. (Walter) Rossing (Organic Agriculture)
- Dr. R. (Rico) Lie (International Development Studies)
- Dr. W.T. (Wilma) Steegenga (Nutrition and Health)
- 15.45 17.15 Meeting of assessment panel: evaluation and first findings

17.15 – 18.00 Graduates:

Francesco Cecchi, MSc (MSc International Development Studies) Prof. Charlotte de Fraiture (MSc International Land and Water Management) Dr. Dinand Ekkel (MSc Animal Sciences) Loes Mertens (MSc Organic Agriculture)

M. Visser (MSc Forest and Nature Conservation)

 $^{^{1}}$ EI = Education Institute

² EB = Examining Board

Appendix 7: Theses and documents studied by the committee

Prior to the site visit, the committee studied the theses of the students with the following student numbers:

Bachelor programme	Master programme
900416237110	790726740180
900221289110	851019735020
881201438130	830515651030
890918753010	830422411130
890105514090	801201523070
890128530070	850131709050
880710242100	850802758130
900128392020	851125277080
881219650090	820507461020
880527863020	851206542030
870430937090	850621007080
860127573020	720221005010
871110863090	860514034120
870918614020	841018208030
	840524658090
	870109800040
	80629981060

During the site visit, the committee studied the following documents (partly as hard copies, partly via the institute's electronic learning environment):

- Reports of consultations with relevant committees / organs (Programme Committee and examinations committee, relevant ad-hoc committees);
- Examination tasks with associated evaluation criteria and standard (answer keys) and a representative selection of completed examinations (presentations, internship and/or research reports, portfolios, etc.) and their evaluations;
- List of required literature;
- Summary and analysis of recent evaluation results and relevant management information.
- Thesis regulations and guidelines for preparing projects;
- Internship regulations/handbooks;
- Course, staff and curriculum evaluations, student satisfaction survey(s), etc.;
- Alumni/exit questionnaires;
- Material about the student associations;
- Documentation on teaching staff satisfaction;
- Course guides.

Appendix 8: Declarations of independence

nvao

DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME FRANS ZWARTS

HOME ADDRESS: <u>ITAUS CAMPERSINGEL 253</u> 9713 AR GRONINGEN

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECKETARY.

LIFE SCIENCES, SEE ATACHMENT

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

WAGENINGEN UNIVERSITY

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS ON TIES OF A PERSONAL MATTINE OR AS A RESEARCHEN THEORIES PROFESSIONAL OR CONSULTANT WITH THE ADVIE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGENERT REGRAMME THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE; nvao

HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HISHER NOTICE IN CONNECTION WITH THE ASSESSMENT, INSOFAR AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF

PLACE: Nageningen DATE: March 30, 2012

2



Visitatiebezoek	Opleiding (CROHO-nummer):	Variant	
A. Food Technology	B Levensmiddelentechnologie (BLT; 56973)	Voltijd	
	M Food Safety (MFS; 60112)	Voltijd	
	M Food Technology (MLT; 66973)	Voltijd	
	M Food Quality Management (MQ; 60109)	Voltijd	
B. Biotechnology en	B Biotechnologie (88T; 56841)	Voltijd	
Bio-Informatics	M Biotechnology (MBT; 66841)	Voltijd	
	M Bioinformatics (MBF; 60106)	Voltijd	
C. Agricultural and Bioresource	B Agrotechnologie (BAT; 56831)	Voltijd	
Engineering	M Agricultural and Bioresource Engineering (MAB; 66831)	Voltijd	
D. Forest and Nature	B Bos- en Natuurbeheer (BBN; 56219)	Voltijd	
conservation	M Forest and Nature Conservation (MFN; 66219)	Voltijd	
E. International Land and	B Internationaal Land- en Waterbeheer (BIL; 50100)	Voltijd	
Water Management	M International Land and Water Management (MIL; 60104)		
F. Landscape, Architecture and	B Landschapsarchitectuur en ruim. Planning (BLP; 56848)		
Planning	M Landscape, Architecture and Planning (MLP; 66848)		
G. Leisure, Tourism and Environment	M Leisure, Tourism and Environment (MLE; 60111)		
H. Geo-Information Science	M Geo-Information Science (MGI; 60108)	Voltijd	
I. Plant Sciences	B Plantenwetenschappen (BPW; 56835)	Voltijd	
	M Plant Sciences (MPS; 88835)	Voltijd	
	M Organic Agriculture (MOA; 69300)	Voltijd	
	M Plant Biotechnology (MPB; 60105)	Voltijd	
J. Animal Sciences	B Dierwetenschappen (BDW; 58849)	Voltijd	
	M Anmial Sciences (MAS; 66849)	Voltijd	
K. Climate Studies	M Climate Studies (MCL; 60107)	Voltijd	
L. International Development	B Internationale Ontwikkelingsstudies (BIN; 56837)	Voltijd	
Studies	M International Development Studies (MID; 66837)	Voltijd	
	M Development and Rural Innovation (MDR; 60103)		
M. Management, Economics	B Bedrijfs- en Consumentenwetenschappen (BBC; 56836)	Voitijd	
and Consumer Studies	M Management, Economics and Consumer Studies (MME; 66836)		
N. Nutrition and Health	B Voeding en Gezondheid (BVG; 56868)		
	M Nutrition and Health (MNH: 66868)		

Bijlage bij onafhankelijkheidsverklaring

🐑 nvao

DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME: RENATE PRENEN

HOME ADDRESS: Simon Stavinweg 21

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT /

LIFE SCHENCES - SEE ATACHMENT

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

WAGENINGEN UNIVERSITY

HEREBY CERTIFIES TO NOT MAINTAINING ANY (PAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTARY WITH THE ABOVE INSTITUTION, WHICH COLDLA PRECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN ETHER A POSITIVE OR A NEGATIVE SENSE:



HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND MULL COME TO HISHER NOTICE IN CONNECTION WITH. THE ASSESSMENT, INSORAR AS SUCH CONPIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: Wageninge DATE: 29-03-12

SIGNATURE

Bijlage bij onafhankelijkheidsverklaring

Visitatiebezoek	Opleiding (CROHO-nummer):	Variant	
A. Food Technology	B Levensmiddelentechnologie (BLT; 56973)	Voltijd	
	M Food Safety (MFS; 60112)	Voltijd	
	M Food Technology (MLT; 66973)		
	M Food Quality Management (MQ; 60109)	Voltijd	
B. Biotechnology en	B Biotechnologie (BBT; 56841)	Voltijd	
Bio-Informatics	M Biotechnology (MBT; 66841)	Voltijd	
	M Bioinformatics (MBF; 60106)	Voltijd	
C. Agricultural and Bioresource	B Agrotechnologie (BAT; 56831)	Voltijd	
Engineering	M Agricultural and Bioresource Engineering (MAB; 66831)	Voltijd	
D. Forest and Nature	B Bos- en Natuurbeheer (BBN; 56219)	Voltijd	
conservation	M Forest and Nature Conservation (MFN; 66219)	Voltijd	
E. International Land and	B Internationaal Land- en Waterbeheer (BIL; 50100)	Voltijd	
Water Management	M International Land and Water Management (MIL; 60104)		
F. Landscape, Architecture and	B Landschapsarchitectuur en ruim. Planning (BLP; 56848)		
Planning	M Landscape, Architecture and Planning (MLP; 66848)	Voltijd	
G. Leisure, Tourism and Environment	M Leisure, Tourism and Environment (MLE; 60111)	Voltijd	
H. Geo-Information Science	M Geo-Information Science (MGI; 60108)	Voltijd	
I. Plant Sciences	B Plantenwetenschappen (BPW; 56835)		
	M Plant Sciences (MPS; 66835)		
	M Organic Agriculture (MOA; 69300)	Voltijd	
	M Plant Biotechnology (MPB; 60105)	Voltijd	
J. Animal Sciences	B Dierwetenschappen (BDW: 56849)	Voltijd	
	M Anmial Sciences (MAS; 66849)	Voltijd	
K. Climate Studies	M Climate Studies (MCL; 60107)	Voltijd	
L. International Development	B Internationale Ontwikkelingsstudies (BIN; 56837)	Voltijd	
Studies	M International Development Studies (MID; 66837)	Voltijd	
	M Development and Rural Innovation (MDR; 60103)		
M. Management, Economics	B Bedrijfs- en Consumentenwetenschappen (BBC; 56836)	Voltijd	
and Consumer Studies	M Management, Economics and Consumer Studies (MME; 66836)		
N. Nutrition and Health	B Voeding en Gezondheid (BVG; 56868)		
	M Nutrition and Health (MNH; 66866)		

🕤 nvao

DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

Wim Verbeh NAME:

HOME ADDRESS: Karperstraat 13 3800 Deinre Belgie

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

Life Sciences Wageningen Unevenity Management, Economics and Consumer

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

Wageningen University

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTAINT WITH THE ABOVE INSTITUTION, WHICH COLLD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROCRAMME IN ETHER A POSTIVE OR A NEGATIVE SENSE;

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DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

THE UNDERSIGNED

NAME: John B. Braden

HOME ADDRESS: Lotte W. Detaware Ave. Lotberg. It 61801 USA

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

Management, Economics and Consumer Studies, _____

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

letegeningen tenversity

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER I TEACHER, PROFESSIONAL OR COMBULTARY WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDERENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN ETHER A POSITIVE OR A NEGATIVE SENSE:

1



HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HISHER NOTICE IN CONNECTION WITH THE ASSESSMENT, INSOFAR AS SUCH CONFIDENTIALITY CAR REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO,

DATE:

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE:

SIGNATURE: 2.0.2.

Snvao

HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HISHER NOTICE IN CONNECTION WITH THE ASSESSMENT INSOFAR AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAC;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: Lurbana, IL, USA DATE: 31 May 2012

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DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME: MRS. E. Lefebure

HOME ADDRESS: 59 LO CHEVERNY ST- ADOLPHE D'HOWARD, QUEBEC, JOT 2BO CANAD

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT /

Life SURNUS-management, economics and consumer studies BSC+MSC

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

hageningen university

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTAIN WITH THE ABOVE INSTITUTION, WHICH COULD AFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE GUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE:

1

Snvao

HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HISARER NOTICE IN CONNECTION WITH THE ASSESSMENT, INSORER AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: Mageningen DATE: Juna 6K, 2012

Much SIGNATURE

2

Snvao

DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE

PROGRAMME THE UNDERSIGNED

NAME: LILIYA EMILOVA IVANOVA

HOME ADDRESS

FILIP TOTYO Street Nº 14 A, POST CODE 1510, SOFIA, BULGARIA

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT

International Development Studies
 BSc International Development Studies

- MSc International Development Studies
- MSc Development and Rural Innovation
- 2. Management, Economics and Consumer Studies BSc Management and Consumer Studies (BBC)
 MSc Management, Economics and Consumer Studies (MME)

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

WAGENINGEN UNIVERSITY

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A FERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;

HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HISHER NOTICE IN CONNECTION WITH THE ASSESSMENT, INSOFAR AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO.

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF

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DATE: November 4th 2011

Leell SIGNATURE:

PLACE: SOFIA, Bulgaria

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DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME: MARLOUS MAARLEVELD

HOME ADDRESS:

Smalle pad 34 3811 MG AMERS FODET

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERI-SECRETARY:

SEE ATTACHMENT

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

WAGENINGEN UNIVERSITY

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHEN TEACHER, PROFESSIONAL OR CONSULTARY WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FOLLY INDEPENDENT JUDGEMENT REGRADING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A VEGATIVE SENSE;

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nvao

HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HIS/HER NOTICE IN CONNECTION WITH THE ASSESSMENT, INSORAR AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: WAGENINGEN DATE: 29-03-2012

2

Bijlage bij onafhankelijkheidsverklaring Visitatiebezoek Opleiding (CROHO-nummer):

Visitatiebezoek	Opleiding (CROHO-nummer):	Variant:		
A. Food Technology	B Levensmiddelentechnologie (BLT; 56973)	Voltijd		
	M Food Safety (MFS; 60112)	Voltijd		
	M Food Technology (MLT; 66973)	Voltijd		
	M Food Quality Management (MQ; 60109)	Voltijd		
B. Biotechnology en	B Biotechnologie (BBT; 56841)			
Bio-Informatics	M Biotechnology (MBT; 66841)	Voltijd		
	M BioInformatics (MBF; 60106)	Voltijd		
C. Agricultural and Bioresource	B Agrotechnologie (BAT; 56831)	Voltijd		
Engineering	M Agricultural and Bioresource Engineering (MAB; 66831)	Voltijd		
D. Forest and Nature	B Bos- en Natuurbeheer (BBN; 56219)	Voltijd		
conservation	M Forest and Nature Conservation (MFN; 66219)	Voltijd		
E. International Land and	B Internationaal Land- en Waterbeheer (BIL; 50100)	Voltijd		
Water Management	M International Land and Water Management (MIL; 60104)			
F. Landscape, Architecture and	B Landschapsarchitectuur en ruim. Planning (BLP; 56848)			
Planning	M Landscape, Architecture and Planning (MLP; 66848)			
G. Leisure, Tourism and Environment	M Leisure, Tourism and Environment (MLE; 60111)	Voltijd		
H. Geo-Information Science	M Geo-Information Science (MGI; 60108)	Voltijd		
I. Plant Sciences	B Plantenwetenschappen (BPW; 56835)			
	M Plant Sciences (MPS; 66835)			
	M Organic Agriculture (MOA; 69300)			
	M Plant Biotechnology (MPB; 60105)			
J. Animal Sciences	B Dierwetenschappen (BDW; 56849)	Voltijd		
	M Anmial Sciences (MAS; 66849)			
K. Climate Studies	M Climate Studies (MCL; 60107)	Voltijd		
L. International Development	B Internationale Ontwikkelingsstudies (BIN; 56837)	Voltijd		
Studies	M International Development Studies (MID; 66637)	Voltijd		
	M Development and Rural Innovation (MDR; 60103)	Voltijd		
M. Management, Economics	B Bedrijfs- en Consumentenwetenschappen (BBC; 56836)			
and Consumer Studies	M Management, Economics and Consumer Studies (MME; 66836)			
N. Nutrition and Health	B Voeding en Gezondheid (BVG; 56868)			
	M Nutrition and Health (MNH; 66868)	Voltijd		



Appendix 9: Rubric for the assessment of a MSc-thesis

Author: Arnold F. Moene, Meteorology and Air Quality Group, Wageningen University

Version: 1.1 (December 15, 2010)

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Item	Mark for item								
	2-3	4-5	6	7	8	9-10			
1. Research compete	ence (30-60%) *		·		·				
1.1. Commitment and perseverance	Student is not motivated. Student escapes work and gives up regularly	Student has little motivation. Tends to be distracted easily. Has given up once or twice	Student is motivated at times, but often, sees the work as a compulsory task. Is distracted from thesis work now and then.	The student is motivated. Overcomes an occasional setback with help of the supervisor.	The student is motivated and/or overcomes an occasional setback on his own and considers the work as his "own" project.	The student is very motivated, goes at length to get the most out of the project. Takes complete control of his own project. Considers setbacks as an extra motivation.			
1.2. Initiative and creativity	Student shows no initiative or new ideas at all.	Student picks up some initiatives and/or new ideas suggested by others (e.g. supervisor), but the selection is not motivated.	Student shows some initiative and/or together with the supervisor develops one or two new ideas on minor parts of the research.	Student initiates discussions on new ideas with supervisor and develops one or two own ideas on minor parts of the research.	Student has his own creative ideas on hypothesis formulation, design or data processing.	Innovative research methods and/or data-analysis methods developed. Possibly the scientific problem has been formulated by the student.			
1.3. Independence	The student can only perform the project properly after repeated detailed instructions and with direct help from the supervisor.	The student needs frequent instructions and well-defined tasks from the supervisor and the supervisor needs careful checks to see if all tasks have been performed.	The supervisor is the main responsible for setting out the tasks, but the student is able to perform them mostly independently	Student selects and plans the tasks together with the supervisor and performs these tasks on his own	Student plans and performs tasks mostly independently, asks for help from the supervisor when needed.	Student plans and performs tasks independently and organizes his sources of help independently.			
	No critical self-reflection at all.	No critical self-reflection at all.	Student is able to reflect on his functioning with the help of the supervisor only.	The student occasionally shows critical self-reflection.	Student actively performs critical self-reflection on some aspects of his functioning	Student actively performs critical self-reflection on various aspects of his own functioning and performance.			
1.4. Efficiency in working with data Note: depending on the characteristics of the thesis work, not all three aspects	Experimental work Student is not able to setup and/or execute an experiment.	Student is able to execute detailed instructions to some extent, but errors are made often, invalidating (part of) the experiment.	Student is able to execute an experiment that has been designed by someone else (without critical assessment of sources of error and uncertainty).	Student is able to execute an experiment that has been designed by someone else. Takes sources of error and uncertainty into account in a qualitative sense.	Student is able to judge the setup of an existing experiment and to include modifications if needed. Takes into account sources of error and uncertainty quantitatively.	Student is able to setup or modify an experiment exactly tailored to answering the research questions. Quantitative consideration of sources of error and uncertainty. Execution of the experiment is flawless.			

Item	Mark for item					
	2-3	4-5	6	7	8	9-10
(experimental work, data analysis and model development) may be relevant and some may be omitted	Data analysis Student is lost when using data. Is not able to use a spreadsheet program or any other appropriate data- processing program.	Student is able to organize the data, but is not able to perform checks and/or simple analyses	Student is able to organize data and perform some simple checks; but the way the data are used does not clearly contribute to answering of the research questions and/or he is unable to analyze the data independently.	Student is able to organize the data, perform some basic checks and perform basic analyses that contribute to the research question	Student is able to organize the data, perform commonly used checks and perform some advanced analyses on the data	Student is able to organize the data, perform thorough checks and perform advanced and original analyses on the data.
	Model development Student is not able to make any modification/addition to an existing model.	Student modifies an existing model, but errors occur and persist. No validation.	Student is able to make minor modifications (say a single formula) to an existing model. Superficial validation or no validation at all.	Student is able to make major modifications to an existing model, based on literature. Validation using some basic measures of quality.	Student is able to make major modifications to an existing model, based on literature or own analyses. Validation using appropriate statistical measures.	Student is able to develop a model from scratch, or add an important new part to an existing model. Excellent theoretical basis for modelling as well as use of advanced validation methods.
1.5. Handling supervisor's comments and	Student does not pick up suggestions and ideas of the supervisor	The supervisor needs to act as an instructor and/or supervisor needs to suggest solutions for problems	Student incorporates some of the comments of the supervisor, but ignores others without arguments	Student incorporates most or all of the supervisor's comments.	Supervisor's comments are weighed by the student and asked for when needed.	Supervisor's comments are critically weighed by the student and asked for when needed, also from other staff members or students.
development of research skills	Knowledge and insight of the student (in relation to the prerequisites) is insufficient and the student is not able to take appropriate action to remedy this	research skills of the student, but suggestions of the supervisor are also ignored	The student is able to adopt some skills as they are presented during supervision	The student is able to adopt skills as they are presented during supervision and develops some skills independently as well	The student is able to adopt new skills mostly independently, and asks for assistance from the supervisor if needed.	The student has knowledge and insight on a scientific level, i.e. he explores solutions on his own, increases skills and knowledge where necessary.
1.6. Keeping to the time schedule	Final version of thesis or colloquium more than 50% of the nominal period overdue without a valid reason (force majeure)	Final version of thesis or colloquium at most 50% of the nominal period overdue (without a valid reason).	Final version of thesis or colloquium at most 25% of nominal period overdue (without valid reason)	Final version of thesis or colloquium at most 10% of nominal period overdue (without valid reasons)	Final version of thesis or colloquium at most 5% of nominal period overdue (without good reasons)	Final version of thesis and colloquium finished within planned period (or overdue but with good reason).
	No time schedule made.	No realistic time schedule.	Mostly realistic time schedule, but no timely adjustment of time schedule.	Realistic time schedule, with some adjustments (but not enough or not all in time) in times only.	Realistic time schedule, with timely adjustments. of times only.	Realistic time schedule, with timely adjustments of both time and tasks.

Item	Mark for item						
	2-3	4-5	6	7	8	9-10	
2. Thesis report (30-60%) *							
2.1. Relevance research, clearness goals, delineation research	No link is made to existing research on the topic. No research context is described.	The context of the topic at hand is described in broad terms but there is no link between what is known and what will be researched.	The link between the thesis research and existing research does not go beyond the information provided by the supervisor.	Context of the research is defined well, with input from the student. There is a link between the context and research questions.	Context of the research is defined sharply and to-the- point. Research questions emerge directly from the described context.	Thesis research is positioned sharply in the relevant scientific field. Novelty and innovation of the research are indicated.	
	There is no researchable research question and the delineation of the research is absent	Most research questions are unclear, or not researchable and the delineation of the research is weak	At least either the research questions or the delineation of the research are clear	The research questions and the delineation are mostly clear but could have been defined sharper at some points	The research questions are clear and researchable and the delineation is clear.	The research questions are clear and formulated to-the-point and limits of the research are well-defined.	
2.2. Theoretical underpinning, use of literature	No discussion of underlying theory.	There is some discussion of underlying theory, but the description shows serious errors.	The relevant theory is used, but the description has not been tailored to the research at hand or shows occasional errors.	The relevant theory is used, and the description has been tailored partially successful to the research at hand. Few errors occur.	The relevant theory is used, it is nicely synthesized, and it is successfully tailored to the research at hand.	Clear, complete and coherent overview of relevant theory on the level of an up-to-date review paper. Exactly tailored to the research at hand.	
	No peer-reviewed/primary scientific papers in reference list except for those already suggested by the supervisor	Only a couple of peer-reviewed papers in reference list.	Some peer-reviewed papers in reference list but also a significant body of grey literature.	Relevant peer-reviewed papers in reference list but also some grey literature or text books. Some included references less relevant.	Mostly peer-reviewed papers or specialized monographs in reference list. An occasional reference may be less relevant.	Almost exclusively peer- reviewed papers in reference list or specialized monographs (not text books). All papers included are relevant.	
2.3. Use of methods and data	No description of methods and/or data.	Research is not reproducible due to insufficient information on data (collection and/or treatment) and analysis methods	insufficiently so that that	Description of the data (collection, treatment) or models as well as the analysis methods used is lacking in a number of places so that at most a more or less similar research could be performed.	Description of the data (collection, treatment) or models as well as the analysis methods used is mostly complete, but exact reproduction of the research is not possible due to lack of some details.	Description of the data (collection, treatment) or models as well as the analysis methods is complete and clear so that exact reproduction of the research is possible.	
2.4. Critical reflection on the research performed (discussion)	No discussion and/or reflection on the research. Discussion only touches trivial or very general points of criticism.	Only some possible weaknesses and/or weaknesses which are in reality irrelevant or non-existent have been identified.		Most weaknesses in the research are indicated and impacts on the main results are weighed relative to each other.	are indicated and weighed	Not only all possible weaknesses in the research are indicated, but also it is indicated which weaknesses affect the conclusions most.	

Item	Mark for item					
	2-3	4-5	6	7	8	9-10
	No confrontation with existing literature.	Confrontation with irrelevant existing literature.	Only trivial reflection vis-a-vis existing literature.	Only most obvious conflicts and correspondences with existing literature are identified. The value of the study is described, but it is not related to existing research.	Minor and major conflicts and correspondences with literature are shown. The added value of the research relative to existing literature is identified.	Results are critically confronted with existing literature. In case of conflicts, the relative weight of own results and existing literature is assessed. The contribution of his work to the development of scientific concepts is identified.
2.5. Clarity of conclusions and recommendations	No link between research questions, results and conclusions.	Conclusions are drawn, but in many cases these are only partial answers to the research question. Conclusions merely repeat results.	Conclusions are linked to the research questions, but not all questions are addressed. Some conclusions are not substantiated by results or merely repeat results.	Most conclusions well-linked to research questions and substantiated by results. Conclusions are mostly formulated clearly but with some vagueness in wording.	Clear link between research questions and conclusions. All conclusions substantiated by results. Conclusions are formulated exact.	Clear link between research questions and conclusions. Conclusions substantiated by results. Conclusions are formulated exact and concise. Conclusions are grouped/ordered in a logical way.
	No recommendations given.	Recommendations are absent or trivial.	Some recommendations are given, but the link of those to the conclusions is not always clear.	Recommendations are well- linked to the conclusions.	Recommendations are to-the- point, well-linked to the conclusions and original.	Recommendations are to-the- point, well-linked to the conclusions, original and are extensive enough to serve as project description for a new thesis project.
2.6. Writing skills	Thesis is badly structured. In many cases information appears in wrong locations. Level of detail is inappropriate throughout.	Main structure incorrect in some places, and placement of material in different chapters illogical in many places. Level of detail varies widely (information missing, or irrelevant information given).	Main structure is correct, but lower level hierarchy of sections is not logical in places. Some sections have overlapping functions leading to ambiguity in placement of information. Level of detail varies widely (information missing, or irrelevant information given).	Main structure correct, but placement of material in different chapters illogical in places. Level of detail inappropriate in a number of places (irrelevant information given).	Most sections have a clear and unique function. Hierarchy of sections is mostly correct. Ordering of sections is mostly logical. All information occurs at the correct place, with few exceptions. In most places level of detail is appropriate.	Well-structured: each section has a clear and unique function. Hierarchy of sections is correct. Ordering of sections is logical. All information occurs at the correct place. Level of detail is appropriate throughout.
	Formulations in the text are often incorrect/inexact inhibiting a correct interpretation of the text.	Vagueness and/or inexactness in wording occur regularly and it affects the interpretation of the text.	The text is ambiguous in some places but this does not always inhibit a correct interpretation of the text.	Formulations in text are predominantly clear and exact. Thesis could have been written more concisely.	Formulations in text are clear and exact, as well as concise.	<i>Textual</i> quality of thesis (or manuscript in the form of a journal paper) is such that it could be acceptable for a pearreviewed journal.

Item	Mark for item					
	2-3	4-5	6	7	8	9-10
3. Colloquium (5%)	*					<u>. </u>
3.1. Graphical presentation	Presentation has no structure.	Presentation has unclear structure.	Presentation is structured, though the audience gets lost in some places.	Presentation has a clear structure with only few exceptions.	Presentation has a clear structure. Mostly a good separation between the main message and side-steps.	Presentation clearly structured, concise and to-the-point. Good separation between the main message and side-steps.
	Unclear lay-out. Unbalanced use of text, graphs, tables or graphics throughout. Too small font size, too many or too few slides.	Lay-out in many places insufficient: too much text and too few graphics (or graphs, tables) or vice verse.	Quality of the layout of the slides is mixed. Inappropriate use of text, tables, graphs and graphics in some places.	Lay-out is mostly clear, with unbalanced use of text, tables, graphs and graphics in few places only.	Lay-out is clear. Appropriate use of text, tables, graphs and graphics.	Lay-out is functional and clear. Clever use of graphs and graphics.
3.2. Verbal presentation and defense	Spoken in such a way that majority of audience could not follow the presentation.	Presentation is uninspired and/or monotonous and/or student reads from slides: attention of audience not captured	Quality of presentation is mixed: sometimes clear, sometimes hard to follow.	Mostly clearly spoken. Perhaps monotonous in some places.	Clearly spoken.	Relaxed and lively though concentrated presentation. Clearly spoken.
	Level of audience not taken into consideration at all.	Level of audience hardly taken intro consideration.	Presentation not at appropriate level of audience.	Level of presentation mostly targeted at audience.	Level of presentation well- targeted at audience. Student is able to adjust to some extent to signals from audience that certain parts are not understood.	Clear take-home message. Level well-targeted at audience. Student is able to adjust to signals from audience that certain parts are not understood.
	Bad timing (way too short or too long).	Timing not well kept (at most 30% deviation from planned time).	Timing not well kept (at most 20% deviation from planned time).	Timing is OK (at most 10% deviation from planned time).	Timing is OK.	Presentation finished well in time.
	Student is not able to answer questions.	Student is able to answer only the simplest questions	Student answers at least half of the questions appropriately.	Student is able to answer nearly all questions in an appropriate way.	Student is able to answer all questions in an appropriate way, although not to-the-point in some cases.	Student is able to give appropriate, clear and to-the- point answers to all questions.

Item	Mark for item					
	2-3	4-5	6	7	8	9-10
4. Examination (5%)) *					
4.1. Defense of the thesis	Student is not able to defend/discuss his thesis. He does not master the contents	The student has difficulty to explain the subject matter of the thesis.	Student is able to defend his thesis. He mostly masters the contents of what he wrote, but for a limited number of items he is not able to explain what he did, or why.	Student is able to defend his thesis. He masters the contents of what he wrote, but not beyond that. Is not able to place thesis in scientific or practical context.	Student is able to defend his thesis, including indications where the work could have been done better. Student is able to place thesis in either scientific or practical context.	Student is able to freely discuss the contents of the thesis and to place the thesis in the context of current scientific literature and practical contexts.
4.2. Knowledge of study domain	Student does not master the most basic knowledge (even below the starting level for the thesis).	The student does not understand all of the subject matter discussed in the thesis.	The student understands the subject matter of the thesis on a textbook level.	The student understands the subject matter of the thesis including the literature used in the thesis.	Student is well on top of subjects discussed in thesis: not only does he understand but he is also aware of current discussions in the literature related to the thesis topic.	Student is well on top of subjects discussed in thesis: not only does he understand but he is also aware of discussions in the literature beyond the topic (but related to) of the thesis.

Manual for use of the thesis evaluation form and the MSc-thesis assessment rubric (version 1.1) of Wageningen University

User instructions

- Grading the thesis work is generally done by two persons, the daily supervisor and the second reviewer/examiner. For the sake of grading uniformity, it is highly recommended by the Exam Boards that the second reviewer within a chair group is always the same person. Preferably it is the head of the group.
- The thesis evaluation form has four categories. The research competence category can only be filled in by the daily supervisor as this person has worked with the student. The Thesis report category can most objectively be filled in by the second reviewer who was not involved in the thesis process, as grading the thesis report should not be biased by positive or negative experiences with the student. The daily supervisor who has these experiences can take these into account when grading the research competence.
- Use of the comment fields on the thesis evaluation form is highly recommended. It is an extra feedback for the student.
- The assessment rubric has the form of an analytic rubric (see e.g. Andrade (2005), Reynolds *et al.* (2009), URL1, URL2). Each line discusses one **criterion** for assessment. Each column gives a **level** for the grading. Each cell contains the **descriptor** of the level for that criterion.
- The criteria in the rubric exactly follow the items presented in the Excel worksheet "Thesis evaluation Wageningen University" constructed by the Exam Boards. In a few cases the criteria in the original thesis evaluation document were split into two or more parts because the description of the criteria clearly covered different subjects.
- Since the final mark is composed of so many criteria, the scores on individual criteria should be discriminative. Not all levels are equally broad in marks. Since the final marks of theses usually range between 6 and 9, in the rubric individual levels have been established for the marks of 6, 7 and 8. When performance is at the 9-10 level, decide whether the student is on the low edge (9) or high edge (10) of this level. Descriptions at the 9-10 level tend to describe the ultimate performance (10). Hence, if a student performs well above 8, but below the description at the 9-10 level, a 9 would be the appropriate mark.
- Keep in mind that each line in the rubric should be read independently: it could be that a student scores a 2-3 on one criterion and a 9-10 on another.
- Always start at the lowest mark in the rubric, and test if the student should be awarded the next higher mark. In some cases achievements of a next lower level are not repeated at the higher level (i.e. the lower level achievements are implicit in the higher levels). Furthermore, if a level has a range of marks, choose the most appropriate one (consider the description of the level of performance as a continuum, rather than a discrete description).
- Wherever the student is indicated as 'he', one can also read 'she'.

Remarks

• This rubric has been validated by a number of supervisors by comparing the original grade of a number of theses to the grade resulting from this rubric.

- The main intention of using a rubric is enhance homogeneity of assessments and the ability to communicate about assessments both with students and with colleagues. Furthermore, it clarifies to students the expectations of the supervisor and helps the supervisor to structure feedback during the process of thesis research. Although the intention is to homogenize the process of assessment, it should be noted that even with the use of a rubric some arbitrariness will remain.
- The two main categories on the thesis evaluation form (research competence and thesis report) should have an assessment of 'sufficient' (i.e. ≥ 5.5) before the total thesis work can be considered as sufficient. So, no compensation between these main categories is possible to obtain the lowest final mark of 6.0.
- Please report any positive or negative experiences with and suggestions for the rubric to arnold.moene@wur.nl.
- Author of the rubric: Arnold F. Moene (Meteorology and Air Quality Group, Wageningen University), with valuable contributions from Ellis Hofland, Edwin Peeters, Tamar Nieuwenhuizen, Maarten Holtslag, George Bier, Gerard Ros, Lijbert Brussaard, Judith Gulikers and Paul Berentsen.

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- URL1: <u>http://jonathan.mueller.faculty.noctrl.edu/toolbox/rubrics.htm</u> (last visited November 17, 2009).
- URL2: <u>http://en.wikipedia.org/wiki/Rubric (academic)</u> (last visited November 17, 2009).