Assessment report
Limited Framework Programme Assessment

Master Energy and Environmental Sciences

University of Groningen

Contents of the report

1. Executive summary

In this executive summary, the external assessment panel presents the main considerations which led to the assessment of the quality of the Master Energy and Environmental Sciences programme of University of Groningen. The programme was assessed following the standards of the limited assessment framework, laid down in the NVAO Assessment framework for the higher education accreditation system of the Netherlands, and as published on 20 December 2016 (Staatscourant nr. 69458).

The panel considers the objectives of the programme to be sound and relevant and welcomes the multi-disciplinary nature of the programme. The programme distinguishes itself by being directed towards energy and environmental subjects and developments and by offering students the strong natural sciences basis in this domain in combination with the understanding of societal and political issues in the domain.

The programme objectives are within the boundaries of the domain-specific reference framework for academic programmes in Environment and Sustainability Sciences, this programme having a clear profile within this framework. The panel is very positive about the effort by the joint academic programmes in the Netherlands to draft this framework and regards this to be a sound and up-to-date description of this domain.

The programme objectives have been well translated into the programme intended learning outcomes. These reflect domain-specific knowledge, research skills and academic skills. The panel advises, however, to formulate academic skills and academic attitudes more explicitly. The intended learning outcomes conform to the master level.

The panel appreciates the programme goals to educate students for appropriate positions not only in research, but also in government and business. The panel is positive about the role of the External Advisory Board in keeping the programme aligned with trends in the professional field.

The panel regards the organisation of the programme to be appropriate and is positive about the role of the Faculty Educational Support Centre in supporting programme management and lecturers.

The panel is pleased to see the number of students enrolling in the programme to have risen and supports the programme management’s intentions to raise these number further.

The curriculum corresponds to the intended learning outcomes of the programme. The panel regards the substance of the curriculum to be strong. Current developments are addressed in the curriculum. The societal aspects are appropriately covered. Students are offered individually tailored curricula and are offered both systems studies and experimental studies options in the programme, both of which are welcomed by the panel. The interdisciplinary dimensions of the programme are adequately covered, but could be presented more explicitly. The panel recommends to address the academic and professional skills in the curriculum more clearly, in order for the skills development of the students to be better traceable and to be better monitored. The students take part in current research in their research projects.

The panel experienced the lecturers as a passionate and committed team. About 81 % of the lecturers in the programme have PhDs and are intensively engaged in current, relevant research. Their educational capabilities are up to standard, the regular staff meetings being a very positive feature. The lecturers are easily approachable for the students. The panel welcomes the recruitment of new staff to bring the teaching staff up to strength, as the work load of the staff at present is quite challenging.

The natural sciences or exact sciences backgrounds of incoming students are considered by the panel to be important prerequisites for entering the programme. The panel regards the interviews of prospective Dutch students by the academic advisor as an important part of the admission procedures and advises to try and conduct interviews with foreign students as well. The pre-master programme, especially for students of Polytechnic Universities, is positive.

The educational concept and study methods of the programme are adequate and promote student-activating learning. The study guidance by tutors and the academic advisor are appropriate. The panel recommends to promote online learning facilities and new study methods, such as flipping the classroom. In addition, the panel advises to improve the information provision in the programme, especially in the first part of the curriculum. The student success rates of the programme are appropriate.

The examinations and assessments policies of the programme are adequate, being in line with University and Faculty rules and regulations. The composition, role and responsibilities of the Board of Examiners are up to standard.

The panel considers the examinations in the courses to match the learning goals of the courses.

The measures taken by programme management to ensure the validity of examinations and the reliability of the assessments are adequate. The panel, however, advises to conduct reviews of examinations and research projects on a structural basis.

The research projects are well organised and the supervision of these projects in weekly or biweekly meetings is generous. The assessment of these projects is reliable, two examiners being involved and rubrics scoring forms with relevant criteria being used. The panel advises to schedule calibrating sessions to synchronise assessments and grades among examiners.

The panel considers the examinations of the courses to be very much up to standard and quite challenging.

The research projects the panel studied, in general address interesting subjects. The grades given by the programme examiners, are endorsed by the panel. The research projects are regarded by the panel to be quite good, to be theoretically sound and to exhibit fine scientific structures.

The panel is convinced the students completing the programme have reached the intended learning outcomes and are equipped to address energy and environmental issues, taking societal aspects into consideration.

The panel that conducted the assessment of the Master Energy and Environmental Sciences programme of University of Groningen assesses this programme to meet the standards of the limited framework, as laid down in the NVAO Assessment framework for the higher education accreditation system of the Netherlands, judging the programme to be satisfactory. Therefore, the panel recommends NVAO to accredit this programme.

Rotterdam, 2 July 2018

Prof. dr. W.A. Hafkamp
(panel chair)

drs. W. Vercouteren
(panel secretary)

2. Assessment process

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

Management of the programmes in the assessment cluster Environment and Sustainability Sciences convened to discuss the composition of the assessment panel and to draft the list of candidates.

Having conferred with management of the Master Energy and Environmental Sciences programme of University of Groningen, Certiked invited candidate panel members to sit on the assessment panel. The panel members agreed to do so. The panel composition was as follows:

- Prof. dr. W.A. Hafkamp, full professor of Environmental Sciences, Erasmus University Rotterdam (panel chair);
- Prof. dr. M.C.E. van Dam-Mieras, emeritus professor Sustainable Development and Educational Innovation, Leiden University (panel member);
- Prof. dr. L. Hordijk, emeritus professor Environmental Systems Analysis, Wageningen University (panel member);
- P. Aarts BSc, student Master Biological Sciences, University of Amsterdam (student member).

On behalf of Certiked, drs. W. Vercouteren served as the process coordinator and secretary in the assessment process.

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

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

Well in advance of the site visit date, programme management sent the list of final projects of graduates of the programme of the most recent years. Acting on behalf of the assessment panel, the process coordinator selected 30 final projects, two separate final projects of each of 15 graduates. In the programme, students are required to write two final projects. The grade distribution in the selection was ensured to conform to the grade distribution in the list, sent by programme management. No additional criteria applied.

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

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

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

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

On 19 March 2018, the panel conducted the site visit on the University of Groningen campus. The site visit schedule was in accordance with the schedule as planned. In a number of separate sessions, panel members were given the opportunity to meet with Faculty Board representatives, programme management, Board of Examiners members, lecturers and final projects examiners, and students and alumni.

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

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

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

3. Programme administrative information

Name programme in CROHO:	M Energy and Environmental Sciences
Orientation, level programme:	Academic Master
Grade:	MSc
Number of credits:	120 EC
Specialisations:	None
Location:	Groningen
Mode of study:	Full-time (language of instruction: English)
Registration in CROHO:	21PC-60608
Name of institution:	University of Groningen
Status of institution:	Government-funded University
Institution's quality assurance:	Approved

4. Findings, considerations and assessments per standard

4.1 Standard 1: Intended learning outcomes

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

Findings
The programme is a two-year, research-oriented, interdisciplinary master programme.

The main objectives of this programme are to give students an integrated view on energy and environmental sciences, firmly rooted in natural sciences and mathematics, and to introduce them to societal and interdisciplinary aspects of this domain. The programme is focused on energy issues, addressing environmental sciences and the environmental effects of energy. The objectives of the programme are to educate natural sciences academics who may address social sciences subjects and problems in this field.

The objectives of the programme conform to the domain-specific reference framework for academic programmes in Environment and Sustainability Sciences, which has been drafted by the joint programmes in the Netherlands. In this domain-specific reference framework, reference has been made to international frameworks and benchmark statements. This University of Groningen programme may be regarded to be positioned in the *Natural Systems Emphasis* part of the Environment and Sustainability Sciences domain.

These objectives have been translated into intended learning outcomes. The intended learning outcomes specify students being able to analyse subjects and developments in the energy and environmental domain, students obtaining research skills, and students acquiring academic skills, such as communication and collaboration skills.

Programme management drafted a table from which the correspondence of the intended learning outcomes to the Dublin descriptors for master programmes may be inferred.

In the programme, students are educated to work in research as well as in government positions or in positions in business.

The External Advisory Board for the programme advises programme management on the alignment of the programme with professional field requirements. The Board meets on regular basis with programme management.

Considerations
The panel considers the objectives of the programme to be sound and relevant and welcomes the interdisciplinary nature of the programme. The programme distinguishes itself by being directed towards energy and environmental subjects and developments and by offering students the strong natural sciences basis in this domain in combination with the understanding of societal and political issues in the domain. The panel regards this profile to be relevant, the programme having a position of its own among the academic programmes in Environment and Sustainability Sciences in the Netherlands.

The programme objectives are within the boundaries of the domain-specific reference framework for academic programmes in Environment and Sustainability Sciences, this programme having a clear profile within this framework. The panel is very positive about the effort by the joint academic programmes in Environment and Sustainability Sciences in the Netherlands to draft this framework and regards this to be a sound and up-to-date description of this domain.

The programme objectives have been well translated into the intended learning outcomes. These are well articulated and reflect domain-specific knowledge, research skills and academic skills. The panel advises, however, to formulate academic skills and academic attitudes more explicitly.

The intended learning outcomes conform to the master level. This is exemplified by the Dublin descriptors criteria for master level programmes matching the intended learning outcomes.

The panel appreciates the programme goals to educate students for appropriate positions not only in research, but also in government and business. The panel is positive about the role of the External Advisory Board in keeping the programme aligned with trends in the professional field.

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

4.2 Standard 2: Teaching-learning environment

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

Findings
The Master Energy and Environmental Sciences is one of the programmes of the Faculty of Science and Engineering of University of Groningen. The programme is part of the Graduate School of Science and Engineering of the Faculty. The director of the Graduate School is responsible for the programme quality. The programme deputy director has been delegated the responsibility for the programme contents. The Faculty Educational Support Centre provides the support staff for the programme. Faculty policy is to offer supporting services on Faculty level, but also to assign support staff to individual programmes. The main reason for this policy is to be able to adjust services to growing student numbers. The Programme Committee for the programme consists of three staff members and three students and advises programme management on quality issues. The Board of Examiners for the programme has the authority to ensure the programme examinations and assessments quality. The programme Admission Board is responsible for students' admissions.

The influx of students grew substantially the last years. The student intake being 25 students in 2016 and 34 students in 2017 has returned to the levels of 2011 and 2012, after having been quite low in 2013 to 2015. Programme management schedules information meetings to attract students of bachelor programmes in Physics and in Biology. University of Groningen offers the Environmental Sciences minor Future Plan Innovation for bachelor students to prepare for this master programme. Programme management has set the target at the number of 50 incoming students per year. About 50 % of the students come from abroad.

Programme management presented a table to demonstrate the alignment of the intended learning outcomes and the curriculum. The curriculum consists of two years and is composed of 25 EC of compulsory courses, all scheduled in the first semester. In these courses, students are taught the main natural sciences theories and methodologies and are introduced to the principles of system thinking. Students are introduced to modelling and to the pitfalls in models and are taught to be critical towards models. The courses address also the socio-economic dimensions of the energy and environment domain. Students typically take 25 % of 30 % of their courses on societal, economic and political subjects. Students take 35 EC of optional courses in the first year. They are offered opportunities to design their own study paths. Students need to select one out of two optional courses, offering them the opportunity to specialise in either system studies or experimental studies or both of these. The other optional courses allow students to tailor the programme to their preferences. Actual, current events from news media are presented in the courses. In the second year, students undertake either two research projects (30 EC each) or conduct one research project (40 EC) and do an internship (20 EC). The first of the research projects always is an internal research project, conducted at one of the research groups of the Energy and Sustainability Institute Groningen. The second research project may be conducted at one of these research groups, but may also be done in external organisations. The internship, having been introduced recently, allows students to get a view on the non-academic world.

The number of staff members lecturing in the programme are 21 lecturers, not counting six PhD students. Two full professors and one assistant professor are recruited and will start the coming year. One of the professors will have a social sciences background. The core lecturers are about ten staff members. The workload of the lecturers is regarded by them to be challenging. Lecturers in the programme are all researchers in one of the six research groups of the Energy and Sustainability Institute Groningen, abbreviated ESRIG. All of the research groups of the Institute are represented among the lecturers, allowing relevant research themes to be addressed in the programme. Staff are required to spend 30 % (tenure tracks) to 40 % (permanent staff) of their time on teaching. About 81 % of the lecturers have PhDs, 76 % are appointed as assistant, associate or full professors and about 71 % are BKO-certified, testifying to their educational capabilities. Another 14 % of the lecturers are in the process of obtaining their BKO-certificate. Some staff members are in the process of obtaining the SKO-certificate. Every month, the core lecturers in the programme meet to discuss the programme and to go over potential overlap of or gaps between courses. On Faculty level, lecturers are trained in teaching intercultural and international student groups.

The admission requirements for the programme are the bachelor degree of one of the Faculty of Science and Engineering programmes. Applicants having a bachelor degree of other Universities or Polytechnic Universities are admitted at the discretion of the Admission Board. Students with deficiencies have to pass the pre-master programme. The prior education of foreign students is screened by the University Admission Office and the Admission Board. The proportion of foreign students being admitted is about 35 % of the applicants, but only 5 % to 10 % actually enrol, mainly for financial reasons. All prospective students from the Netherlands are interviewed by the academic advisor to establish their being apt for this programme. The academic advisors pay specific attention to the foreign students in the first weeks or months of the programme, in their process of adapting to the new situation.

The educational concept adopted in the programme, relies, among others, on interaction between research and teaching, learning in meaningful contexts and the use of activating study methods. The study methods include lectures, tutorials, practicals, presentations, group and individual assignments, and games. The Faculty of Science and Engineering invests in educational innovation, such as e-learning and active learning. Student-centred learning is adopted in most courses. In one of the courses of the programme, the flipping-the-classroom method has been adopted. The students-to-staff ratio of the programme is 12.3. The number of hours of face-to-face education is 30 to 40 hours in 5 EC courses. If students are not challenged enough in courses, they may do extra assignments. All students have an individual tutor to guide them through the programme. Tutors advise students on the contents of their individual curriculum and assist students in selecting electives to match their interests and to prepare for career paths. The academic advisors have the tasks to monitor study progress of students and to support students in case of problems, affecting their studies. The student success rate is about 65 % after three years (average figure for last three cohorts). Students indicated in the students chapter to be less content about the information provision about the programme. Students do succeed to learn to work with the Nestor information system, although at first it may be complicated.

Considerations
The panel regards the organisation of the programme to be appropriate and is positive about the role of the Faculty Educational Support Centre in supporting and assisting programme management and the lecturers.

The panel is pleased to see the number of students enrolling in the programme to have risen and supports the programme management's intentions to raise these number further.

The curriculum corresponds to the intended learning outcomes of the programme. The panel regards the substance of the curriculum to be strong. The core courses in the curriculum are sound and substantial courses, introducing students, among others, to system approaches and impact analyses in the domain of the programme. Current developments are addressed in the curriculum. The societal aspects of the domain of the programme are appropriately covered in the curriculum. Students are offered individually tailored curricula and are offered systems studies and experimental studies options in the programme, which are both welcomed by the panel. The interdisciplinary dimensions of the programme are adequately covered, but could be presented more explicitly. In addition, the panel recommends to address the academic and professional skills in the curriculum more clearly, in order for the skills development of the students to be better traceable and to be better monitored. The students are appropriately acquainted with research, as in their research projects they take part in current research.

The panel experienced the lecturers as a passionate and committed team. About 81 % of the lecturers in the programme have PhDs and are intensively engaged in current, relevant research. Their educational capabilities are regarded by the panel to be up to standard. The regular staff meetings are a very positive feature. The lecturers are easily approachable for the students. The panel welcomes the recruitment of new staff to bring the teaching staff up to strength, as the work load of the staff at present is quite challenging.

The natural sciences or exact sciences backgrounds of incoming students are considered by the panel to be important requirements for entering the programme. The panel regards the interviews of prospective Dutch students by the academic advisor as an important part of the admission procedures and advises to try and conduct interviews with foreign students as well. The pre-master programme, especially for students of Polytechnic Universities, is positive in the opinion of the panel.

The panel considers the educational concept and the study methods of the programme to be up to standard, promoting, among others, student-activating learning. The study guidance in the programme by the tutors and the academic advisor are appropriate. The panel recommends to promote online learning facilities and study methods, such as flipping the classroom. In addition, the panel advises to improve the information provision in the programme, especially in the first part of the curriculum. The student success rates of the programme are appropriate.

Assessment of this standard
These considerations have led the assessment panel to assess standard 2, Teaching-learning environment, to be satisfactory.

4.3 Standard 3: Student assessment

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

Findings
The examination policies of the programme conform to University policy and to the Faculty Science and Engineering rules and regulations, as specified in the Faculty Quality Assurance Manual. The Board of Examiners for the programme has been installed to ensure the quality of examinations and assessment processes and products. The Board of Examiners has an external member, being an expert with respect to examinations and assessments. Faculty Board representatives meet with the Board of Examiners two times per year to discuss the Board of Examiners working in line with the Faculty rules and regulations.

The framework for the examinations and assessments of the programme consists of the yearly drawn up assessment plan, complemented by course unit assessments overviews for each of the courses. The assessment plan specifies the relations between the intended learning outcomes and the courses and the examination methods and examiners for the courses. The course unit assessment overviews describes the relations between the course objectives on the one hand and the study methods, examination methods and grading in the courses on the other hand.

All courses are assessed by multiple examination methods, being combinations of several different examination methods, mostly combinations of individual or group assignments and written examinations with open questions. In case of group assignments, oral discussions about the assignments or individual reports by every one of the students are introduced to identify the students' individual performances.

Course unit assessments overviews, including the course examinations are reviewed by the Board of Examiners every three years. In case of major changes, they are reviewed upon the change. The Board of Examiners appoints examiners, upon advice of the deputy programme director. Course examinations are peer-reviewed by second examiners.

Programme management drafted a protocol to organise the research projects. This protocol specifies as milestones the intake (selection of topic and supervisor), kick-off (formal approval of research plan by supervisor), regular supervision meetings of once every one or two weeks, green-light meeting (approval of research report) and completion meeting (assessment of research project). The protocol is not yet adhered to by all supervisors. As the Faculty-wide protocol will be introduced in the near future, programme management expects this to improve. The research projects and the internships are assessed by two supervisors, in case of two supervisors, or by the supervisor and the second reader. The second reader only approves the research proposal and grades the final product. In case of external projects or internships, the company supervisor provides information about the process, of interest for the grading. The research projects are assessed using rubrics forms. The examiners are to arrive at a common grade. The last years, no serious differences in grading between the examiners occurred. This year, the Board of Examiners inspected the rubrics forms of the research projects and reviewed a sample of research projects. Previously, the Board did less so, due to limited availability of dedicated support staff, which has now however been brought up to standard.

Considerations
The examinations and assessments policies of the programme are adequate in the panel's view, being in line with University and Faculty rules and regulations. The composition, the role and the responsibilities of the Board of Examiners are up to standard.

The panel considers the multiple examinations in the courses to match the learning objectives of the courses.

The panel regards the measures taken by programme management to ensure the validity of examinations and the reliability of the assessments to be up to standard. The panel, however, recommends to conduct reviews of examinations and research projects on a structural basis.

The research projects are in the panel's opinion well organised and the supervision of these projects in weekly or biweekly meetings is generous. The assessment of these projects is reliable, two examiners being involved and rubrics scoring forms with relevant criteria being used. The panel advises to schedule calibrating sessions to synchronise assessments and grades among examiners.

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

4.4 Standard 4: Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Findings
The panel studied the examinations of a number of courses of the programme as well as a number of research projects.

The average grade for the two research projects together for the last three cohorts is 7.4. The proportion of *cum laude* is about 3.5 %. Programme management has set the target for the *cum laude* proportion at about 5 % to 10 %.

On Faculty level career days are scheduled, with the intention to inform students about positions in the labour market and to prepare them in a practical sense for positions in the professional field.

Management of the joint academic programmes in Environment and Sustainability Sciences in the Netherlands very recently conducted a survey among alumni of these programmes. This survey shows graduates of academic programmes in this domain to have at present appropriate job opportunities and career prospects. The survey explains students will continue to have favourable positions on the labour market in the foreseeable future. The survey also shows academic programmes in this domain to adequately prepare students for the professional field in this domain.

Graduates of the programme tend to be employed mainly at consultancy firms, in government positions, in industrial enterprises or in energy firms. About 15 % of the graduates of the programme become PhD students.

Considerations
The panel regards the course examinations, which the panel reviewed to be very much up to standard and quite challenging.

The research projects the panel studied, in general address interesting subjects. Although the projects may be conducted in different contexts, in and outside of the University, the panel did not notice any major differences between these two projects. The grades given by the programme examiners, are endorsed by the panel. These are not too high. The research projects are regarded by the panel to be quite good, to be theoretically sound and to exhibit fine scientific structures.

To be deduced from both the examinations and the research projects and the careers of the programme graduates, the panel is convinced the students completing the programme have more than reached the intended learning outcomes and are well equipped to address the energy and environment issues, taking societal aspects into consideration.

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

5. Overview of assessments

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

6. Recommendations

In this report, a number of recommendations by the panel have been listed. For the sake of clarity, these have been brought together below. These panel recommendations are the following.

- To articulate academic skills and academic attitudes more explicitly in the intended learning outcomes of the programme.
- To present the interdisciplinary dimensions of the programme more clearly, although they are adequately addressed in the curriculum.
- To address the academic and professional skills in the curriculum more pronounced, in order for the skills development of the students to be better traceable and to be better monitored.
- To try and conduct interviews with incoming students from abroad, like is being done at present with Dutch students.
- To promote online learning facilities and new study methods, such as flipping the classroom.
- To improve the information provision in the programme, especially in the first part of the curriculum.
- To conduct reviews of examinations and research projects on a structural basis.
- To schedule calibrating sessions to synchronise assessments and grades among examiners.